IBM TSM For VE 6.2

安装配置指南

1 TSM For Virtual Environment v6.2 部署规划

1.1 硬件配置要求

参见如下 link:
http://publib.boulder.ibm.com/infocenter/tsminfo/v6r2/topic/com.ibm.itsm.ve.doc/r_ve_hwreqs.html

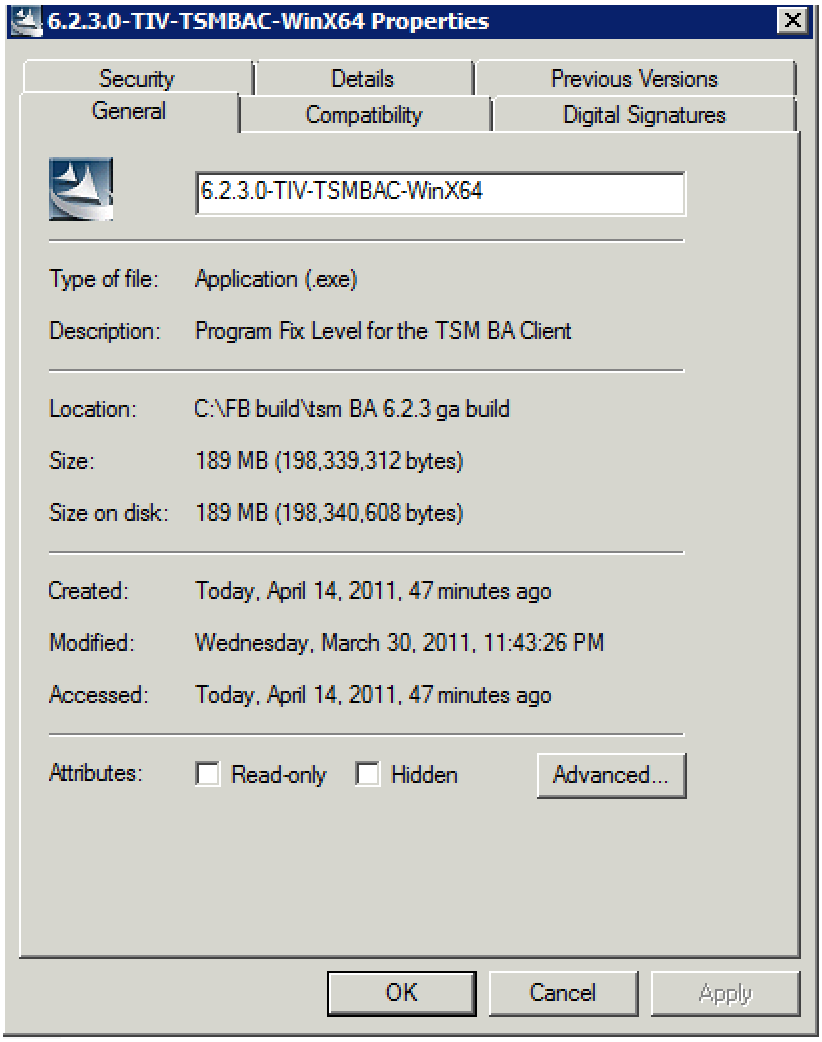
1.2 软件配置要求

参见如下 link:
http://publib.boulder.ibm.com/infocenter/tsminfo/v6r2/topic/com.ibm.itsm.ve.doc/r_ve_os_mount.html

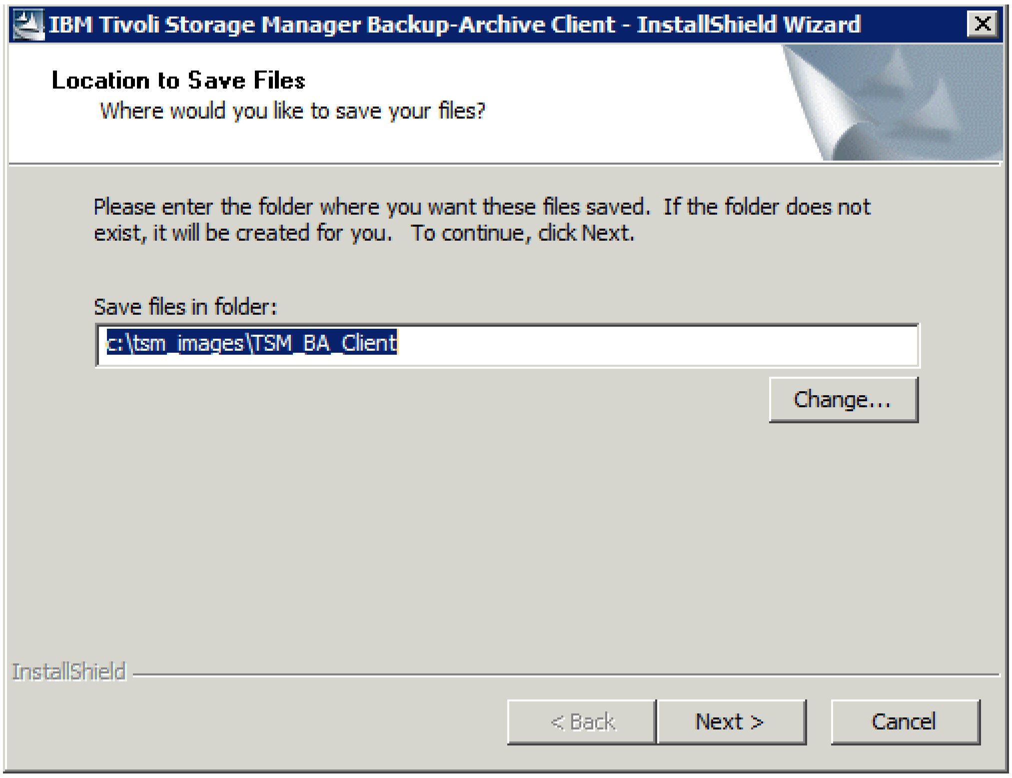
2 TSM For Virtual Environment v6.2 安装步骤

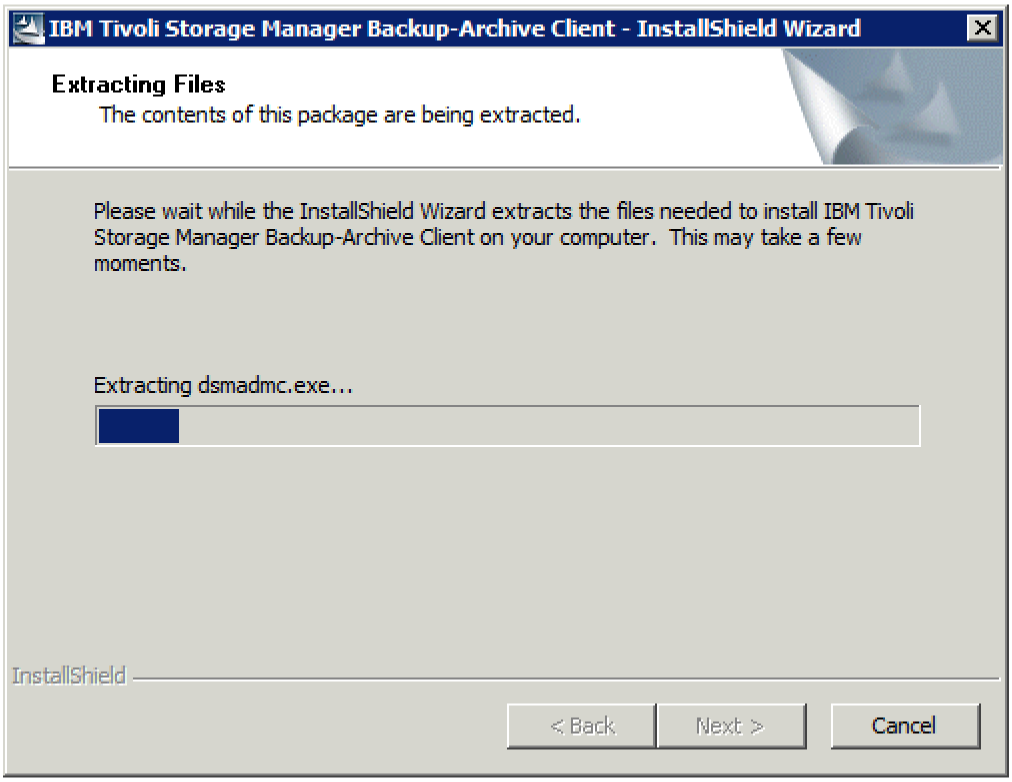
2.1 BA Client v6.2.3 安装

BA Client 安装包有 Windows X32,X64 位两种，安装前根据 proxy Server 的操作系统选择合适的 BA Client 安装包。

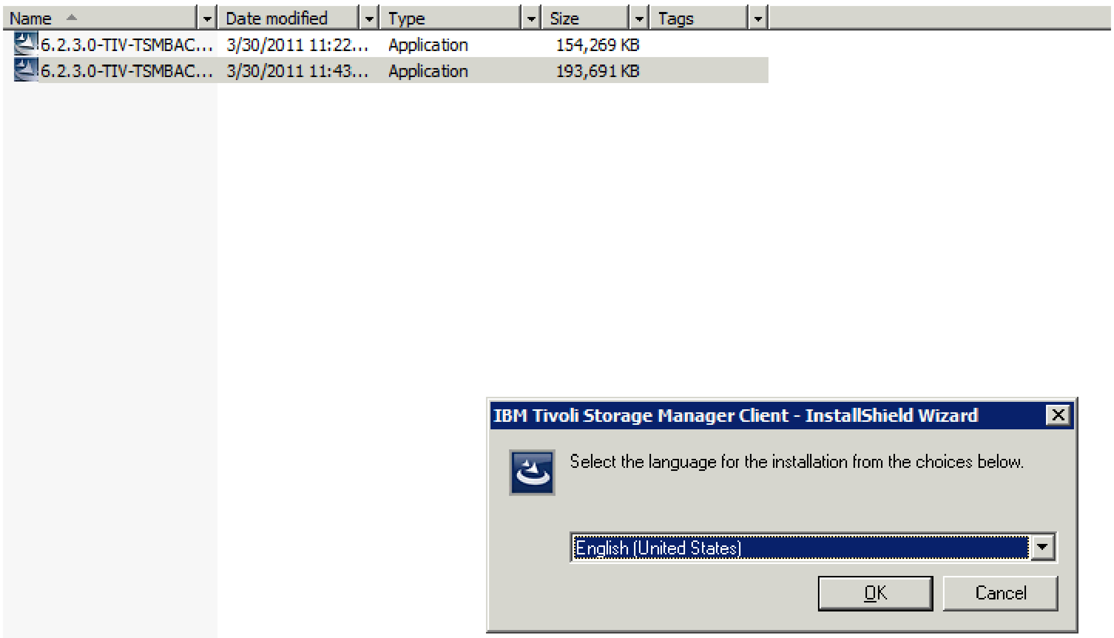


解压 TSM Client 安装包:




IBM Tivoli Storage Manager Backup-Archive Client - InstallShield Wizard
Extracting Files
The contents of this package are being extracted.
Please wait while the InstallShield Wizard extracts the files needed to install IBM Tivoli Storage Manager Backup-Archive Client on your computer. This may take a few moments.
Extracting dsmadmc.exe...
InstallShield
< Back
Next >
Cancel

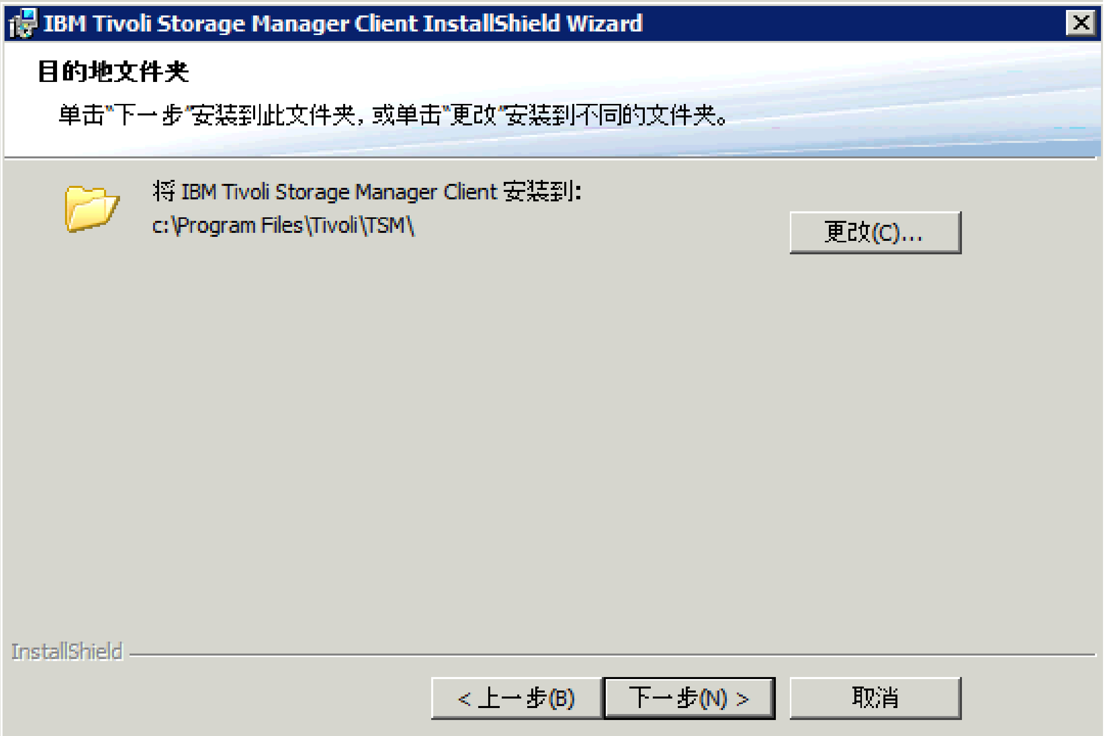
选择安装语言：


Name
Date modified
Type
Size
Tags
6.2.3.0-TIV-TSMBAC... 3/30/2011 11:22... Application 154,269 KB
6.2.3.0-TIV-TSMBAC... 3/30/2011 11:43... Application 193,691 KB
IBM Tivoli Storage Manager Client - InstallShield Wizard
Select the language for the installation from the choices below.
English (United States)
OK
Cancel

开始安装：



选择安装目录：

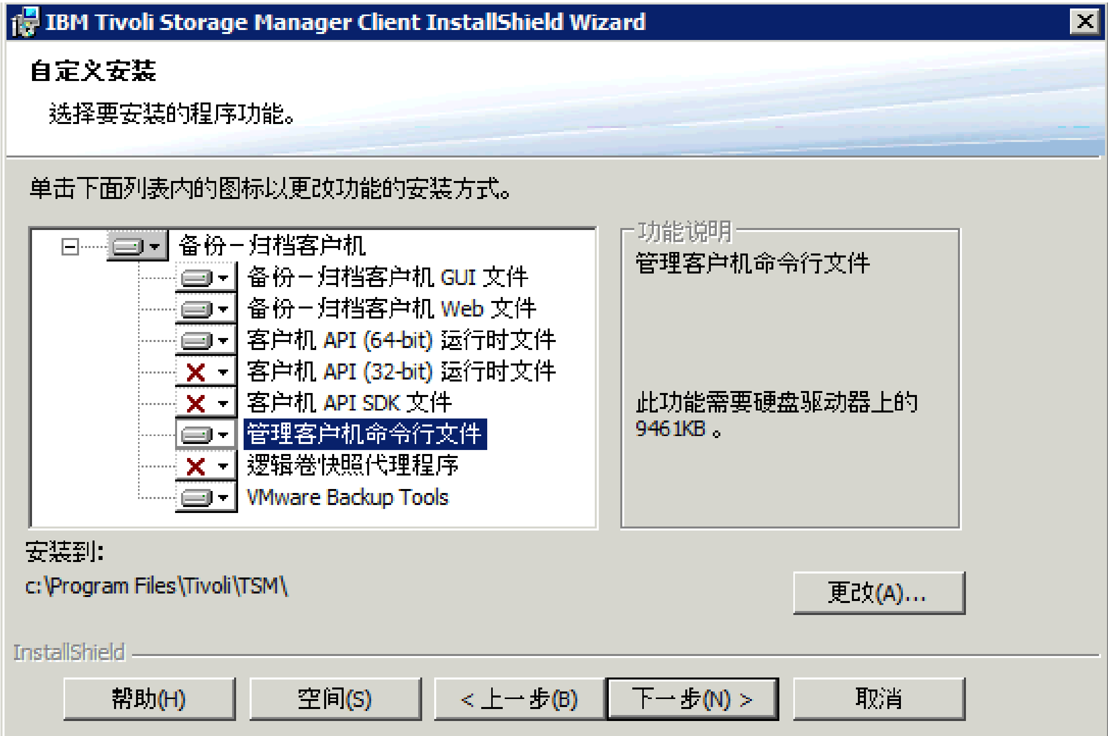


自定义安装：

典型安装不包含 VE 备份功能！



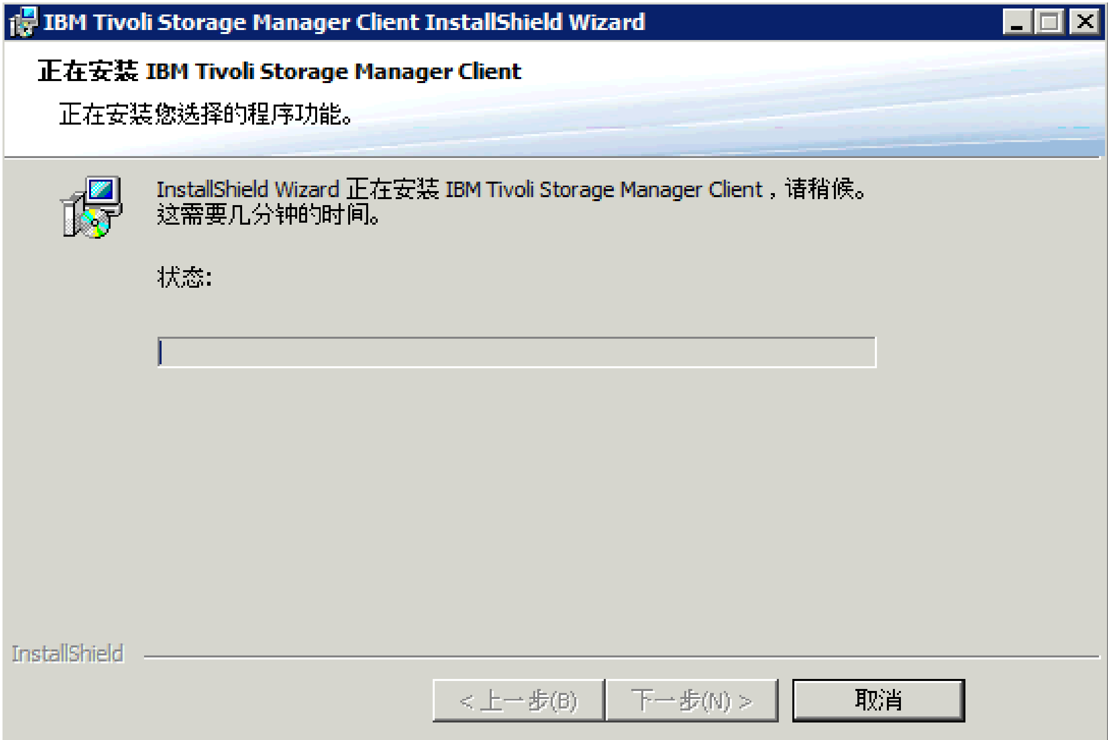
至少要选择 VMware Backup Tools.



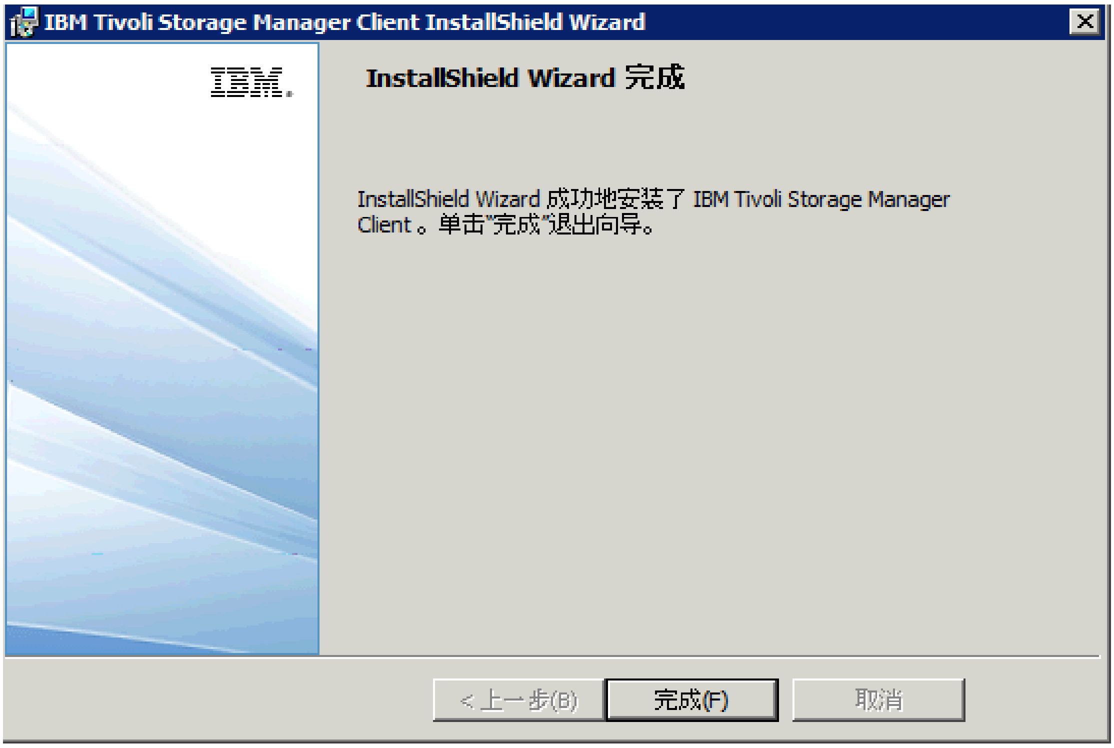
开始安装：


IBM Tivoli Storage Manager Client InstallShield Wizard
已做好安装程序的准备
向导准备开始安装。
单击"安装"开始安装。
要查看或更改任何安装设置，请单击"上一步"。单击"取消"退出向导。
InstallShield
< 上一步(B)
安装(I)
取消

正在安装：


IBM Tivoli Storage Manager Client InstallShield Wizard
正在安装 IBM Tivoli Storage Manager Client
正在安装您选择的程序功能。
InstallShield Wizard 正在安装 IBM Tivoli Storage Manager Client，请稍候。这需要几分钟的时间。
状态:
InstallShield
< 上一步(B)
下一步(N) >
取消

安装完成：

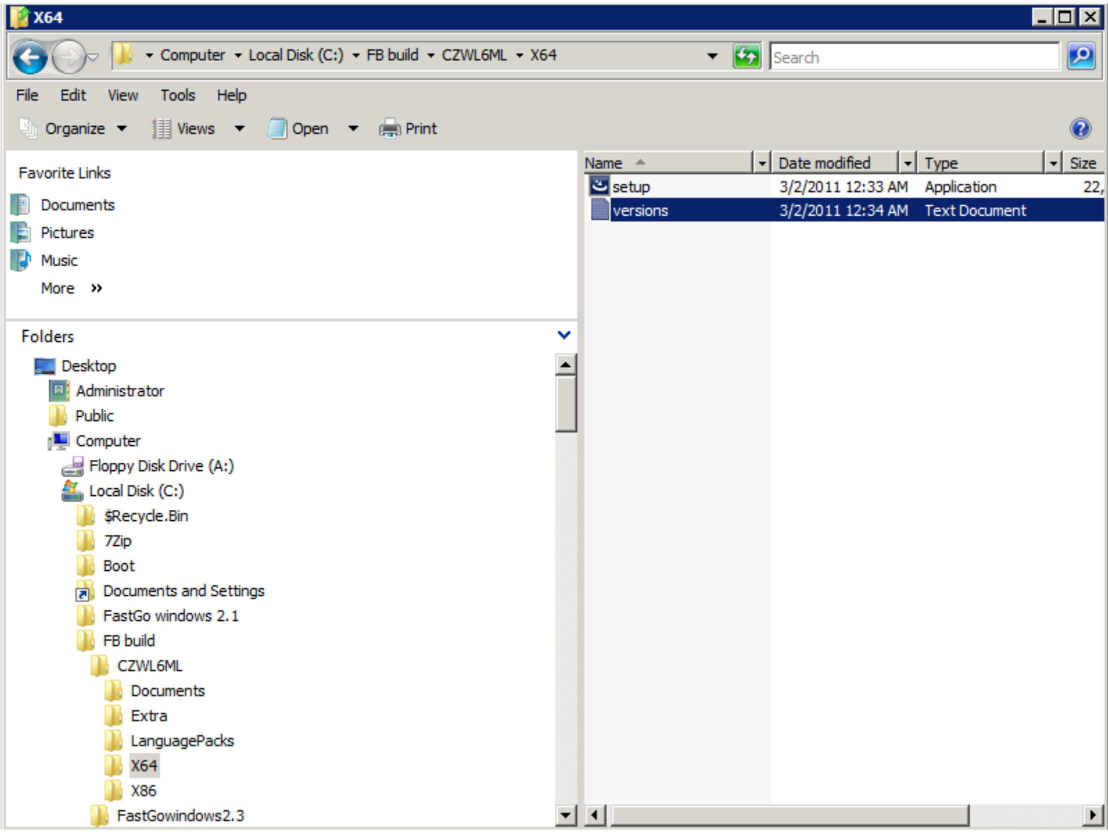


2.2 TSM for VE V6.2 安装

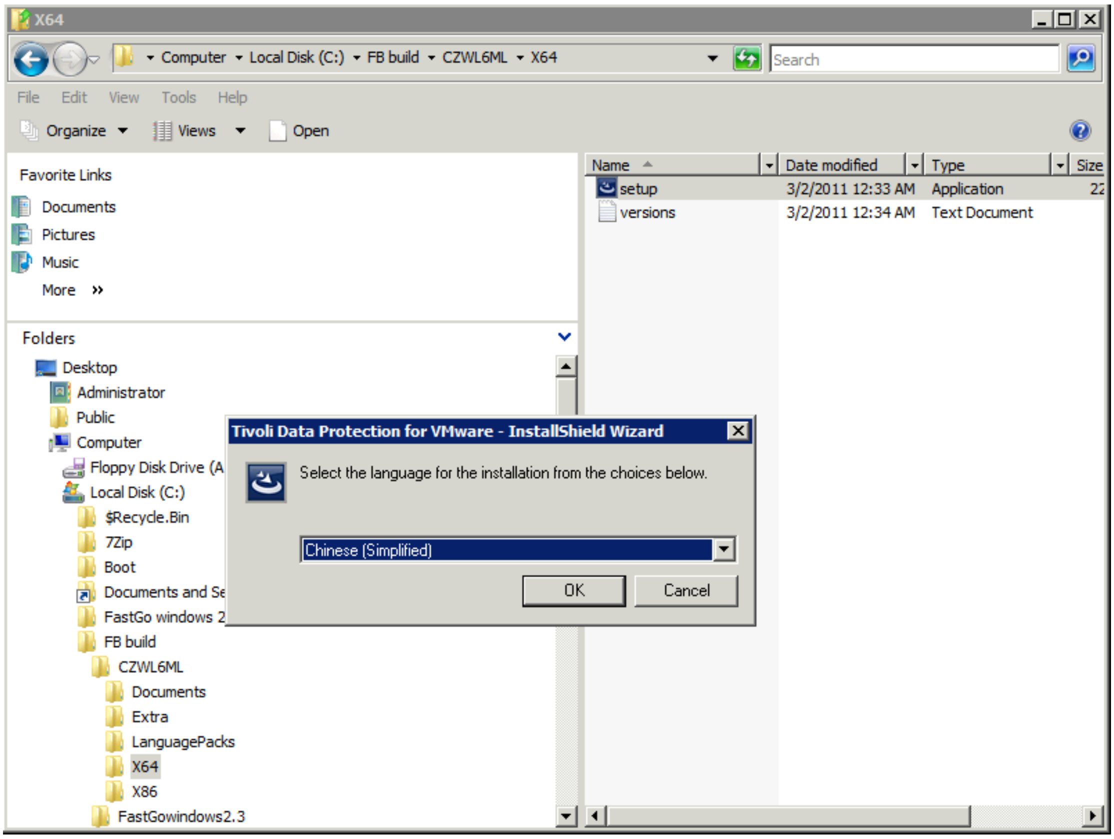
需要安装 TSM for VE 来启用备份 Vmware 的高级功能如:incremental backup, instant restore,iscsi mount,volume mount。

选择合适的安装包，本例采用 WIN X64 安装包:

IBM Tivoli Storage Manager for Virtual Environments 6.2.0

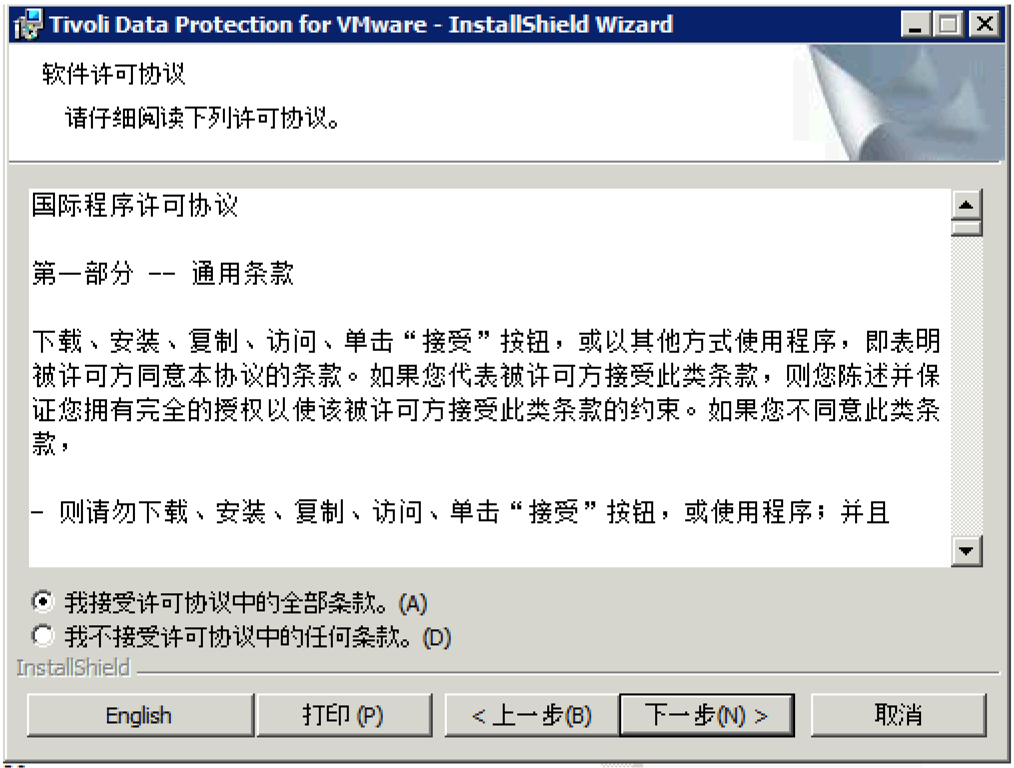

X64
Computer
Local Disk (C:)
FB build
CZWL6ML
X64
Search
File
Edit
View
Tools
Help
Organize
Views
Open
Print
Favorite Links
Documents
Pictures
Music
More
Folders
Desktop
Administrator
Public
Computer
Floppy Disk Drive (A:)
Local Disk (C:)
$Recycle.Bin
7Zip
Boot
Documents and Settings
FastGo windows 2.1
FB build
CZWL6ML
Documents
Extra
LanguagePacks
X64
X86
FastGowindows2.3
Name
Date modified
Type
Size
setup
3/2/2011 12:33 AM
Application
versions
3/2/2011 12:34 AM
Text Document

选择安装语言：


X64
Computer
Local Disk (C:)
FB build
CZWL6ML
X64
Search
File
Edit
View
Tools
Help
Organize
Views
Open
Favorite Links
Documents
Pictures
Music
More
Folders
Desktop
Administrator
Public
Computer
$Recycle.Bin
7Zip
Boot
FB build
CZWL6ML
Documents
Extra
LanguagePacks
X64
X86
FastGowindows2.3
Name
Date modified
Type
Size
setup
3/2/2011 12:33 AM
Application
versions
3/2/2011 12:34 AM
Text Document
Tivoli Data Protection for VMware - InstallShield Wizard
Select the language for the installation from the choices below.
Chinese (Simplified)
OK
Cancel



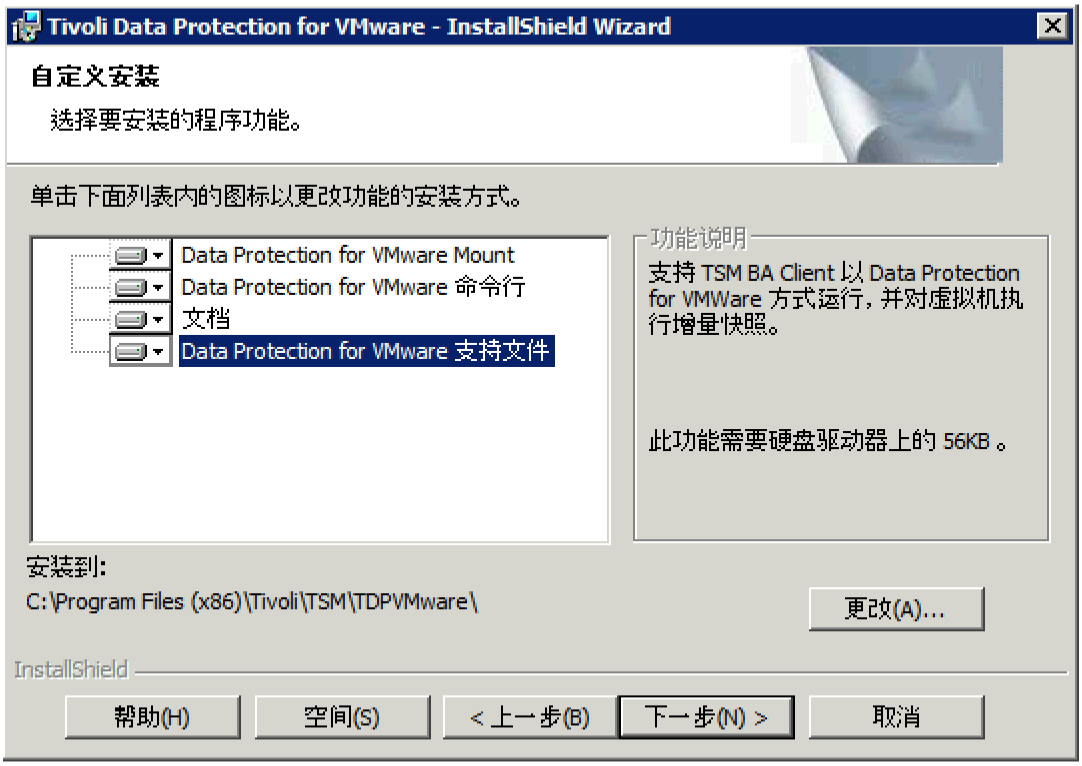
接受协议：



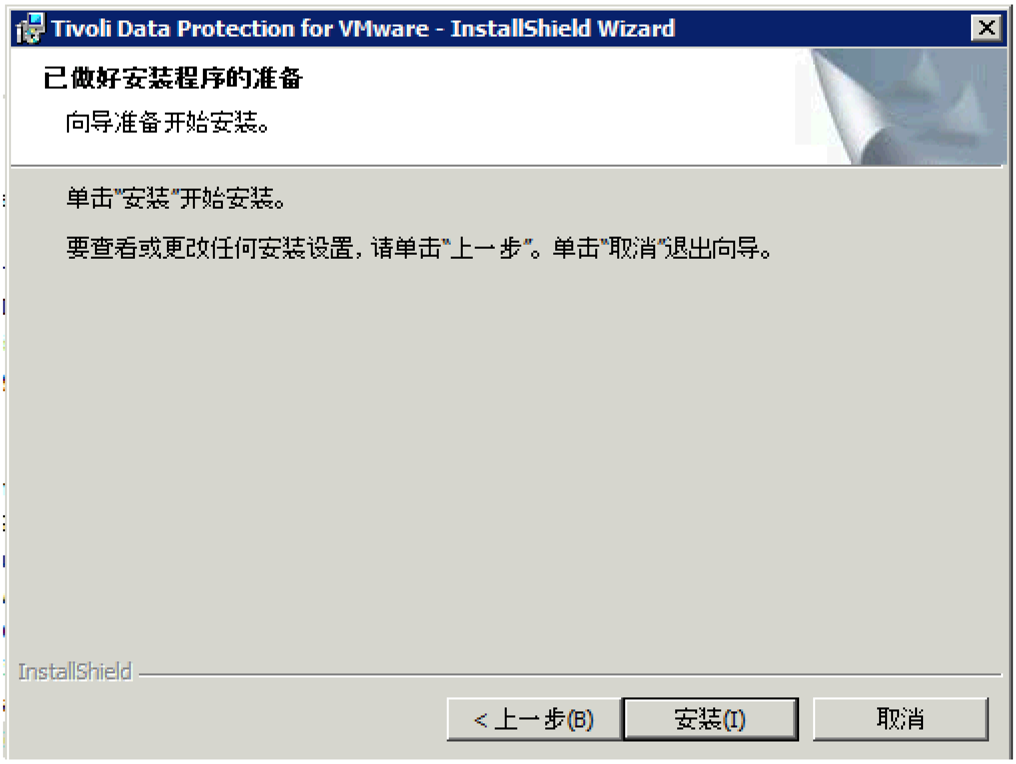
选择自定义安装：



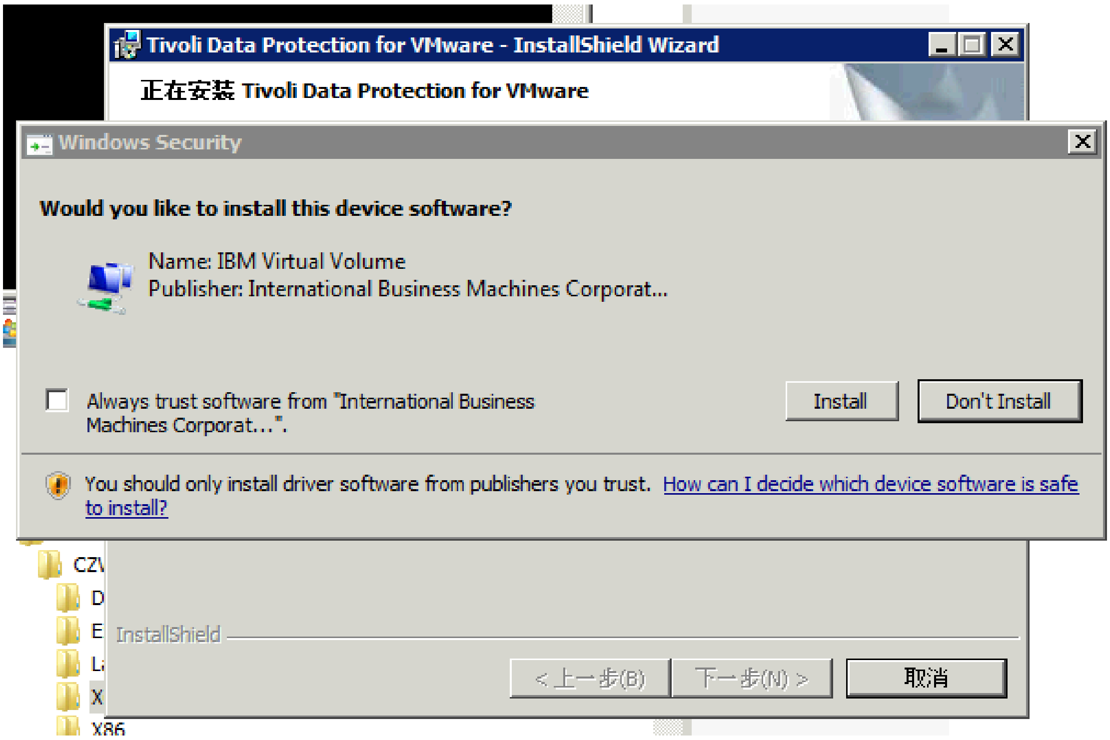
选择安装所有的组件：



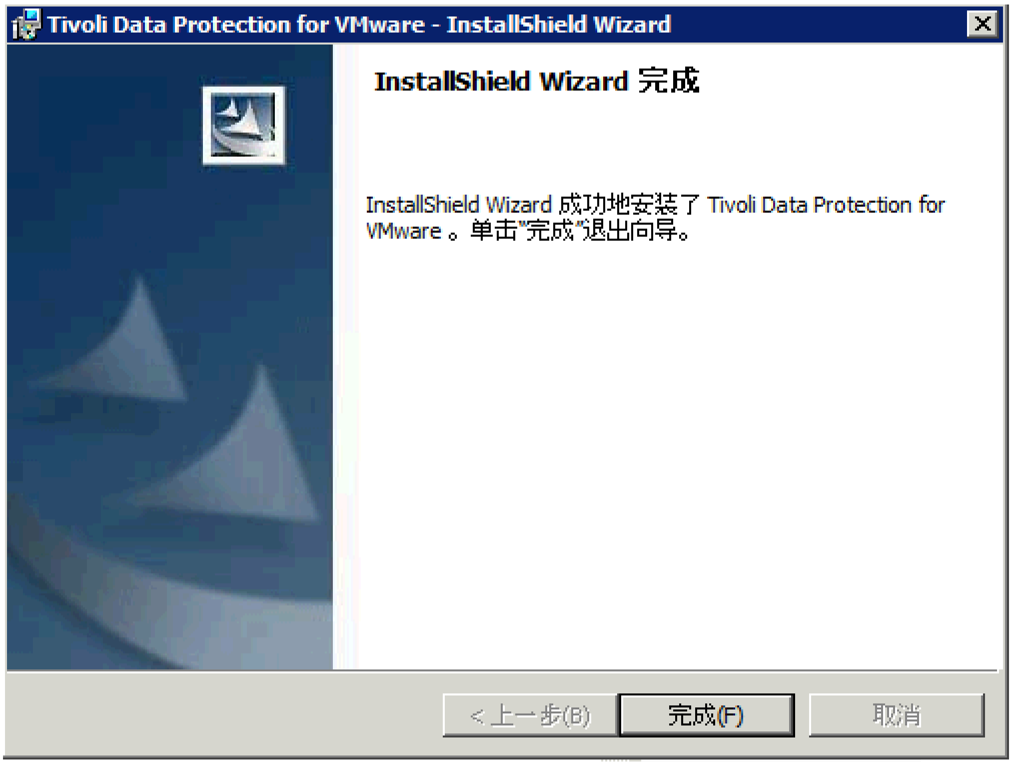
开始安装：



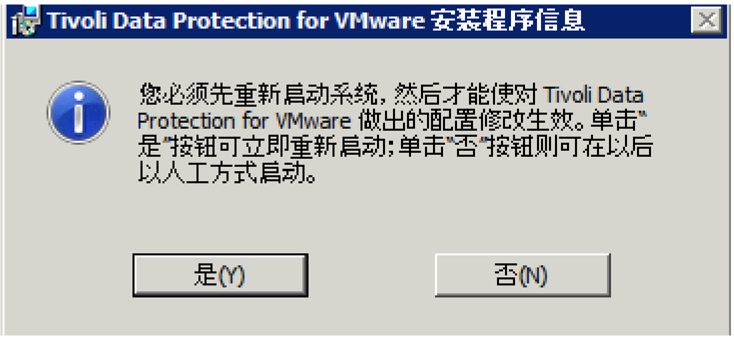
安装 device software:



安装完成：



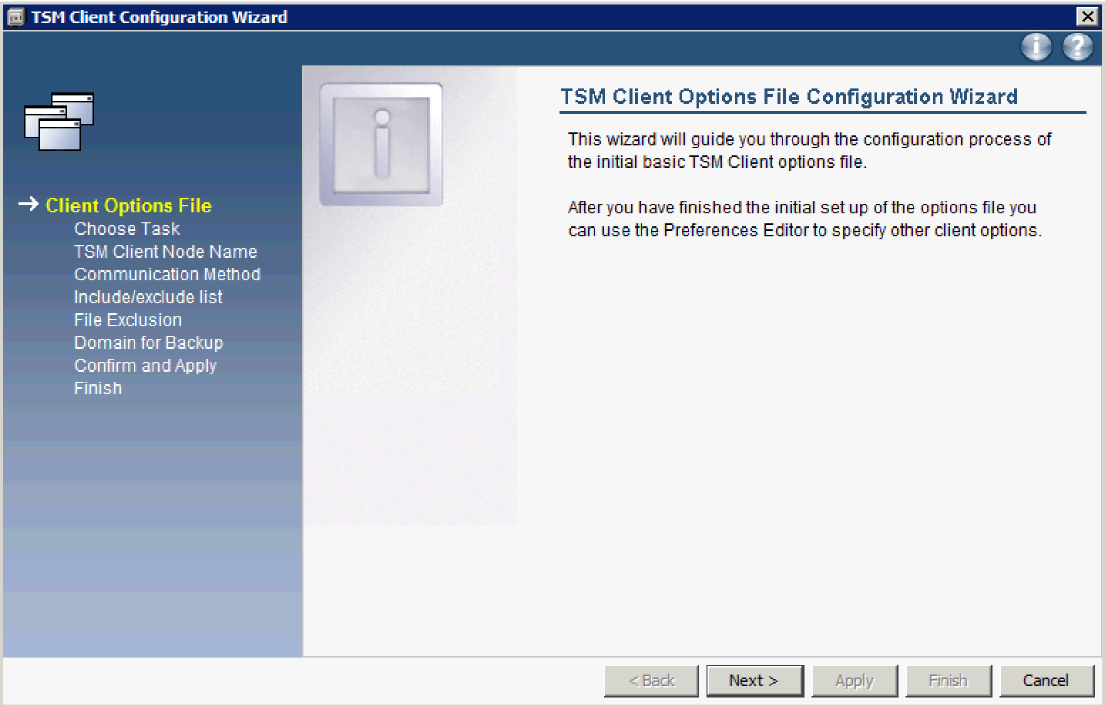
重启机器：



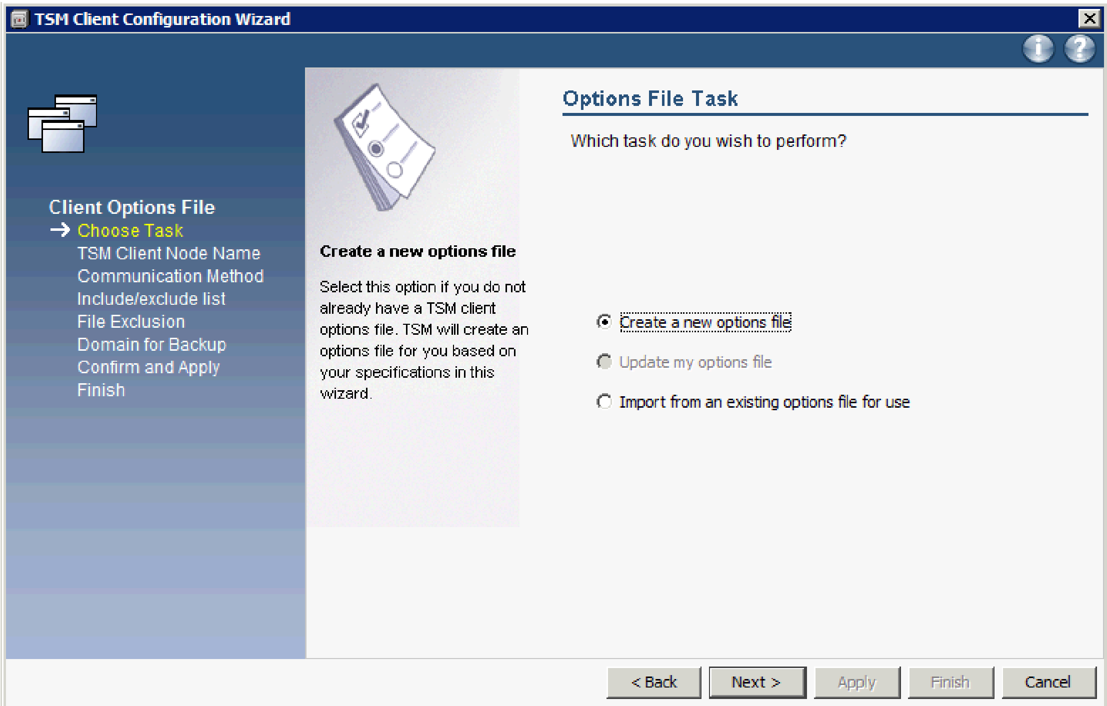
3 TSM For Virtual Environment v6.2 配置过程

3.1 配置 BAClient V6.2.3

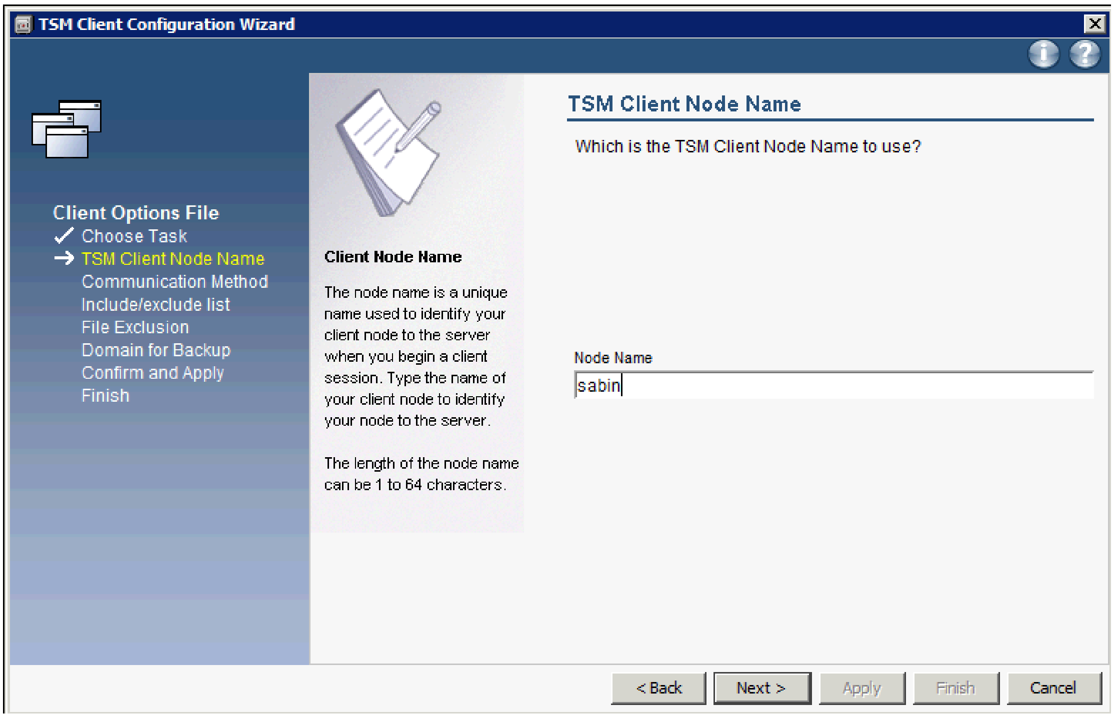
选择配置向导：



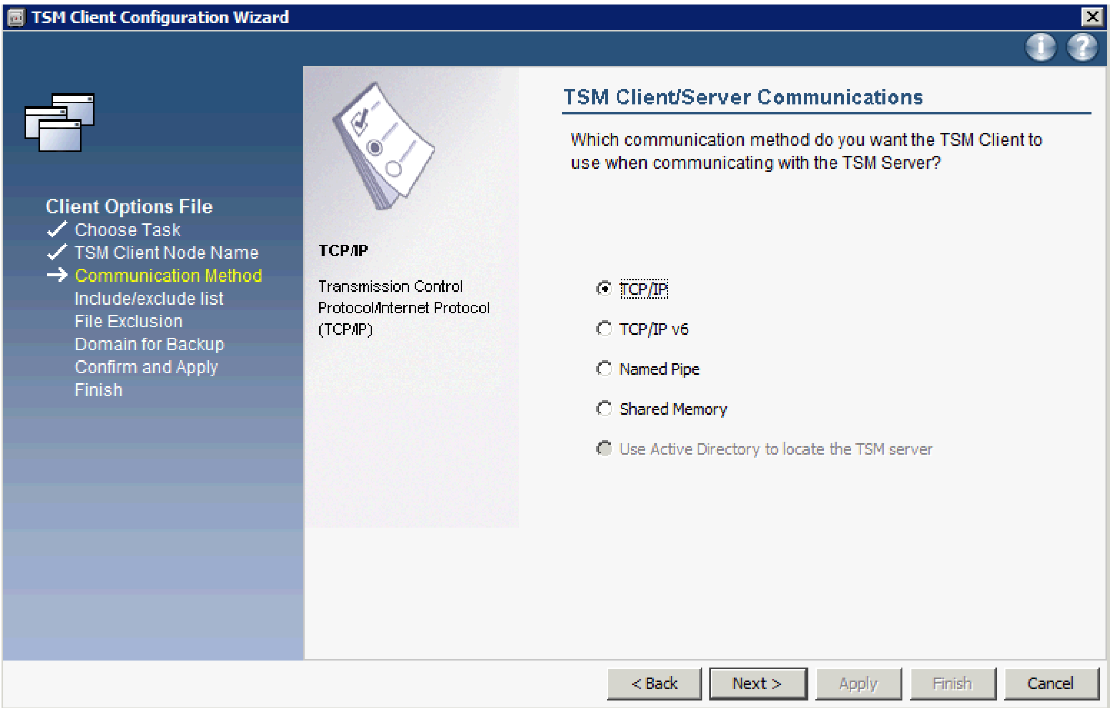
新建配置文件(dsm.opt)：



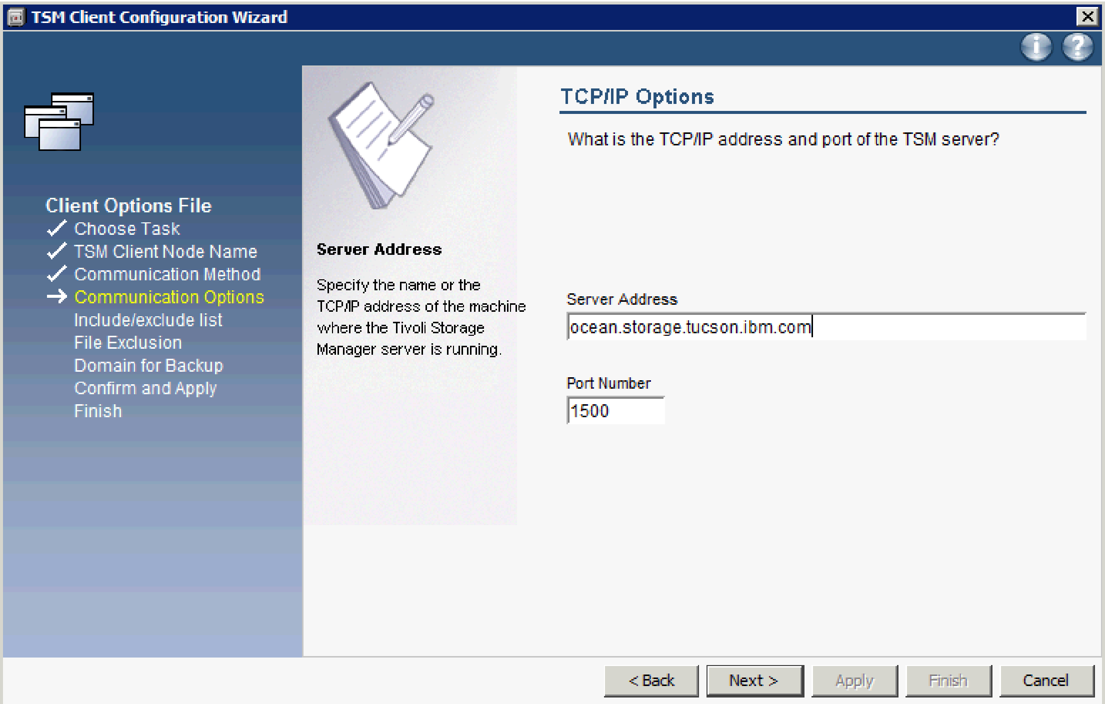
配置节点名字，nodename 需要在 TSM server 上配置：



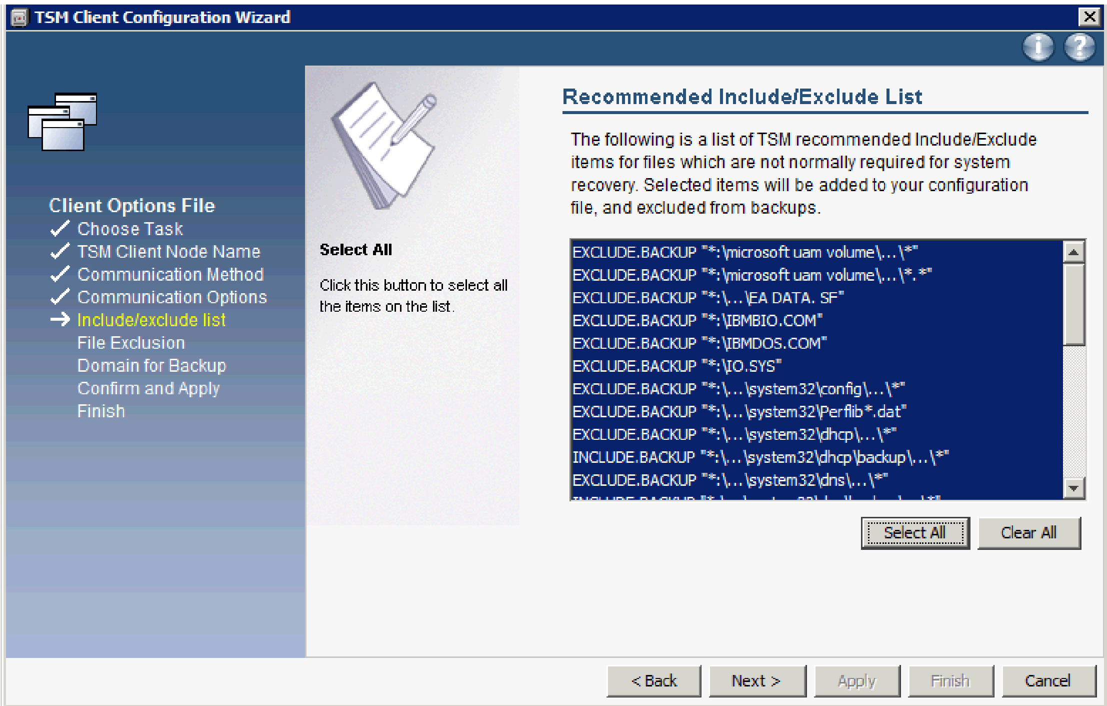
选择与 TSM server 的通讯方式:

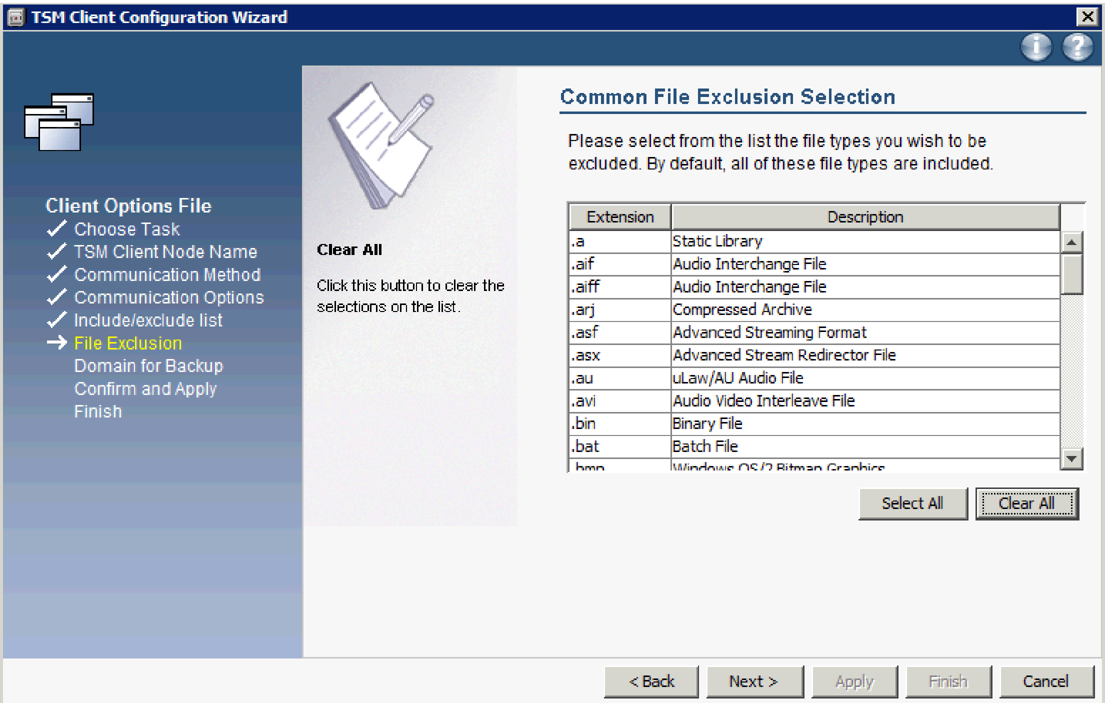
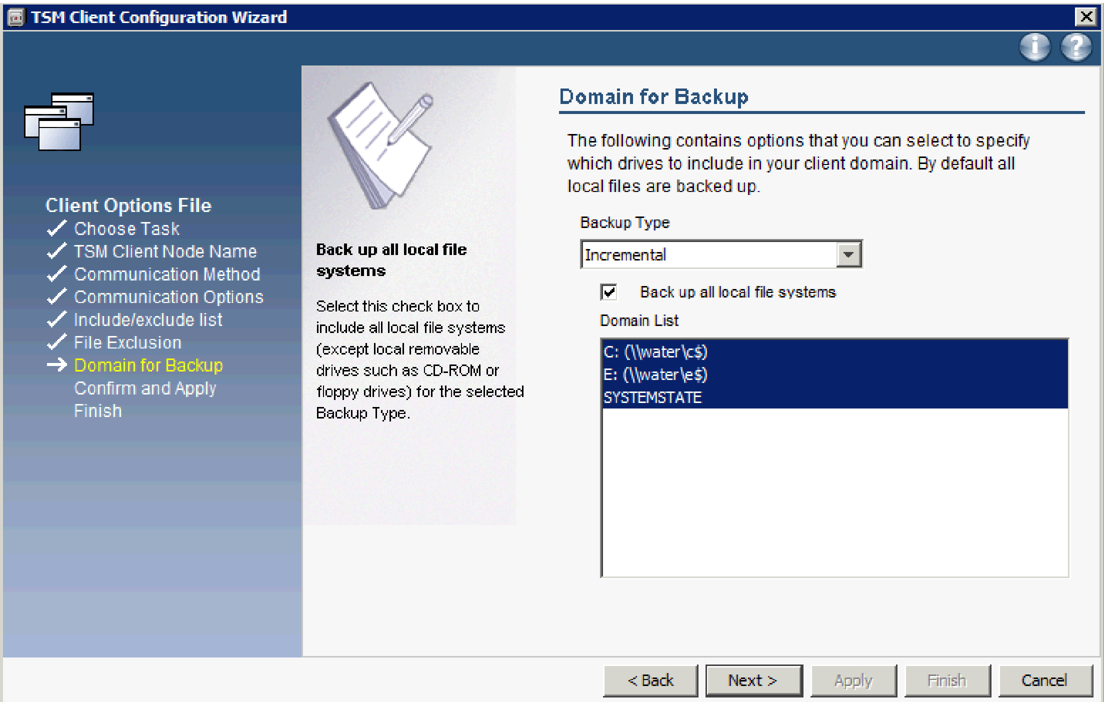


填入 TSM server 地址与端口：

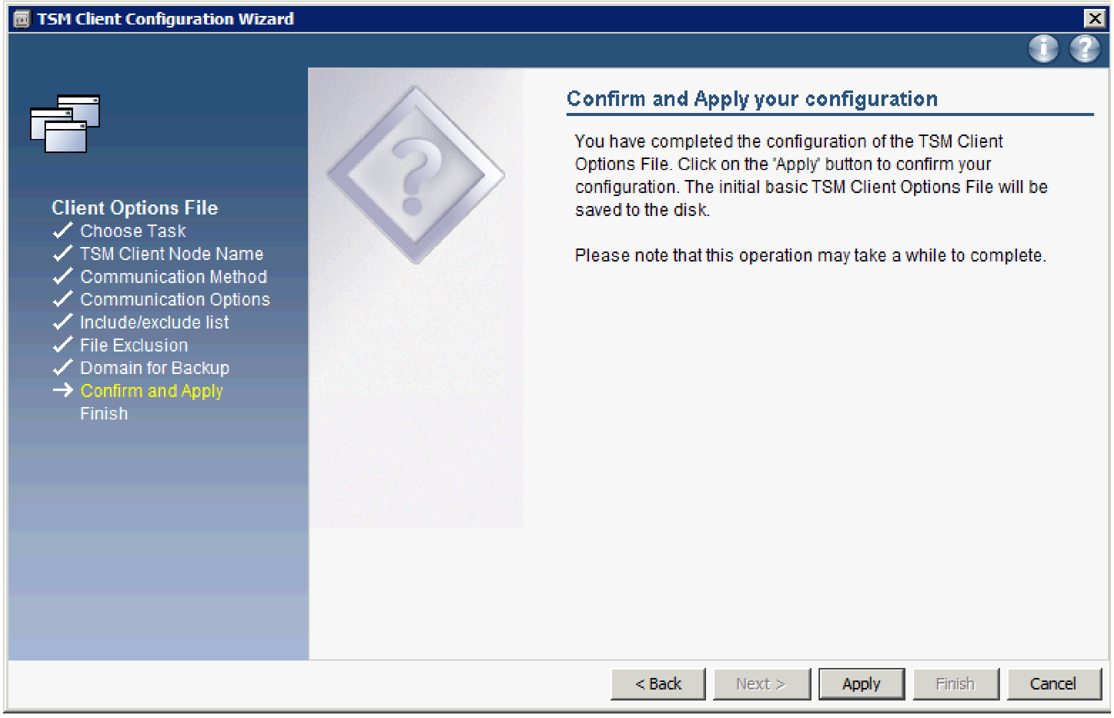


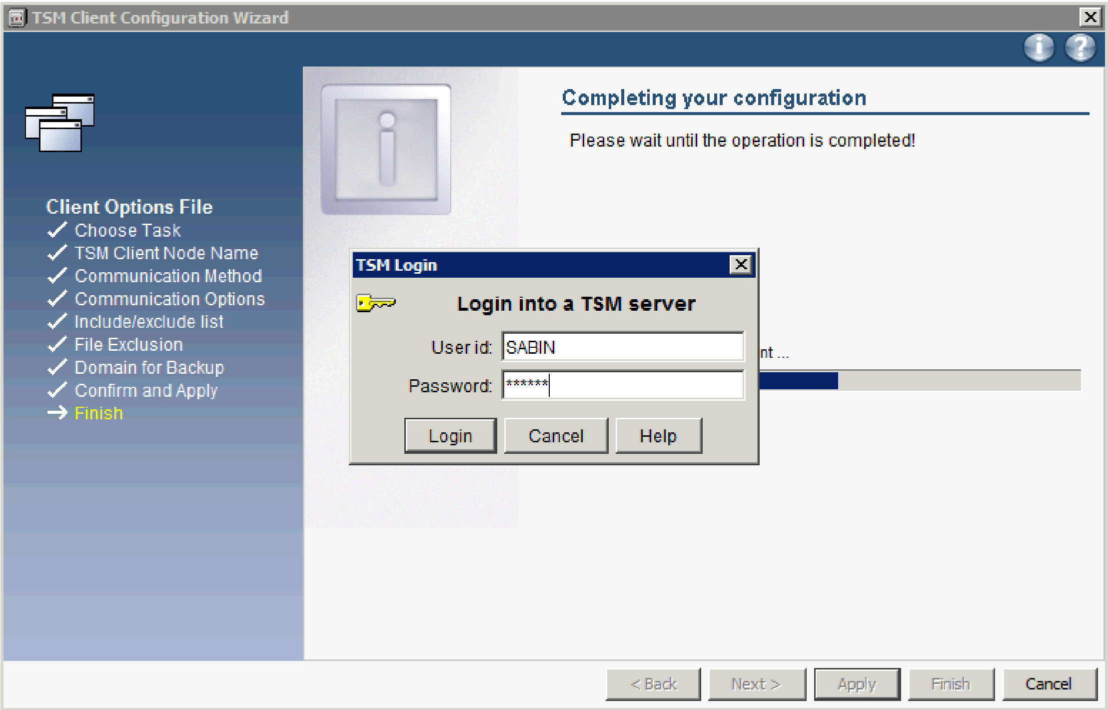
选择 include/exclude 文件列表：

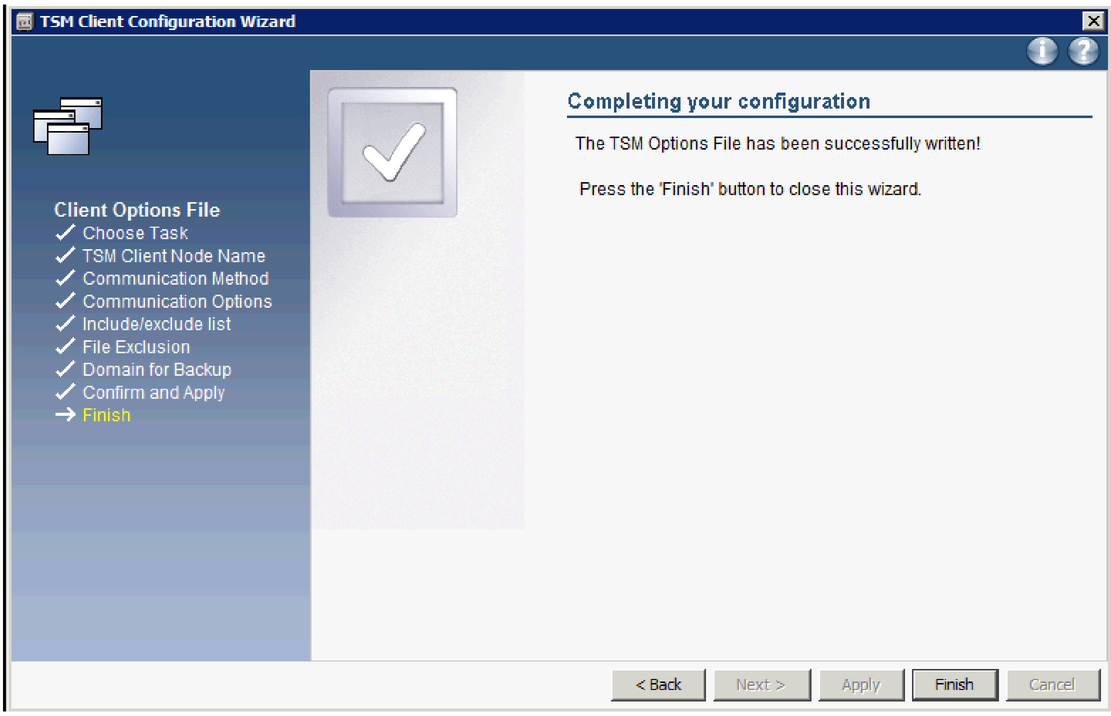



TSM Client Configuration Wizard
Client Options File
Choose Task
TSM Client Node Name
Communication Method
Communication Options
Include/exclude list
File Exclusion
Domain for Backup
Confirm and Apply
Finish
Clear All
Click this button to clear the selections on the list.
Common File Exclusion Selection
Please select from the list the file types you wish to be excluded. By default, all of these file types are included.
Extension
Description
.a
Static Library
.aif
Audio Interchange File
.aiff
Audio Interchange File
.arj
Compressed Archive
.asf
Advanced Streaming Format
.asx
Advanced Stream Redirector File
.au
uLaw/AU Audio File
.avi
Audio Video Interleave File
.bin
Binary File
.bat
Batch File
Select All
Clear All
< Back
Next >
Apply
Finish
Cancel

TSM Client Configuration Wizard
Client Options File
Choose Task
TSM Client Node Name
Communication Method
Communication Options
Include/exclude list
File Exclusion
Domain for Backup
Confirm and Apply
Finish
Back up all local file systems
Select this check box to include all local file systems (except local removable drives such as CD-ROM or floppy drives) for the selected Backup Type.
Domain for Backup
The following contains options that you can select to specify which drives to include in your client domain. By default all local files are backed up.
Backup Type
Incremental
Back up all local file systems
Domain List
C: (\\water\c$)
E: (\\water\e$)
SYSTEMSTATE
< Back
Next >
Apply
Finish
Cancel

完成配置：

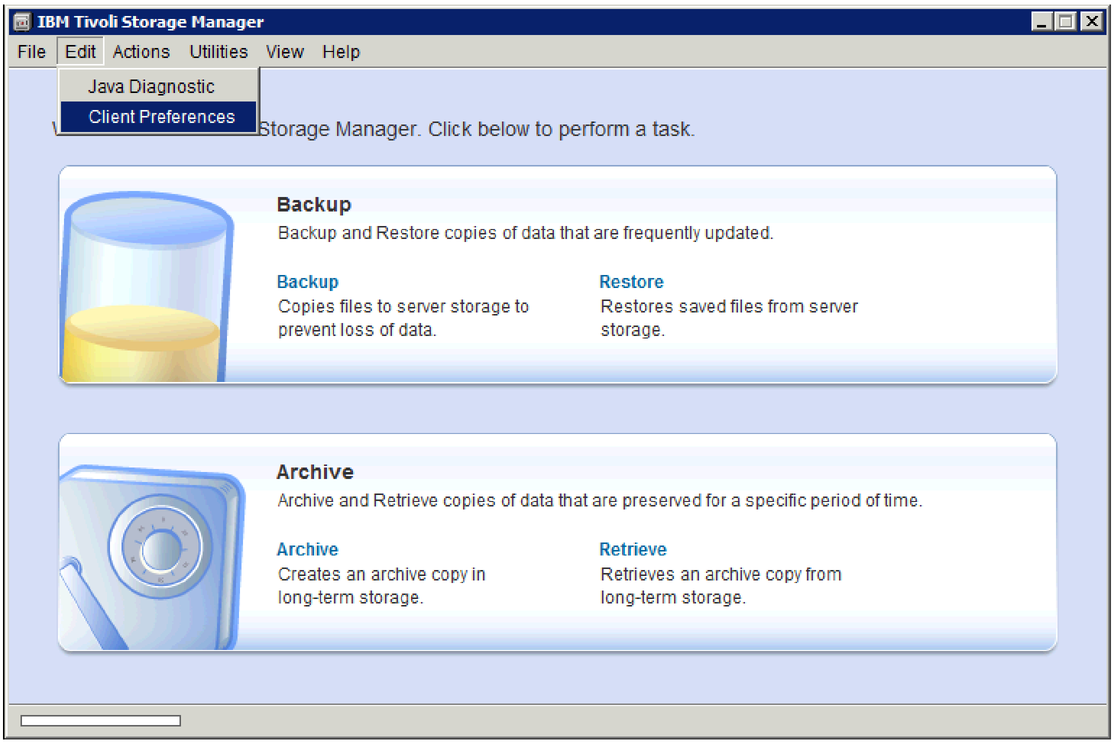

TSM Client Configuration Wizard
Client Options File
Choose Task
TSM Client Node Name
Communication Method
Communication Options
Include/exclude list
File Exclusion
Domain for Backup
Confirm and Apply
Finish
Confirm and Apply your configuration
You have completed the configuration of the TSM Client Options File. Click on the 'Apply' button to confirm your configuration. The initial basic TSM Client Options File will be saved to the disk.
Please note that this operation may take a while to complete.
< Back
Next >
Apply
Finish
Cancel


TSM Client Configuration Wizard
Client Options File
Choose Task
TSM Client Node Name
Communication Method
Communication Options
Include/exclude list
File Exclusion
Domain for Backup
Confirm and Apply
Finish
Completing your configuration
Please wait until the operation is completed!
TSM Login
Login into a TSM server
User id: SABIN
Password: ******
Login
Cancel
Help
< Back
Next >
Apply
Finish
Cancel

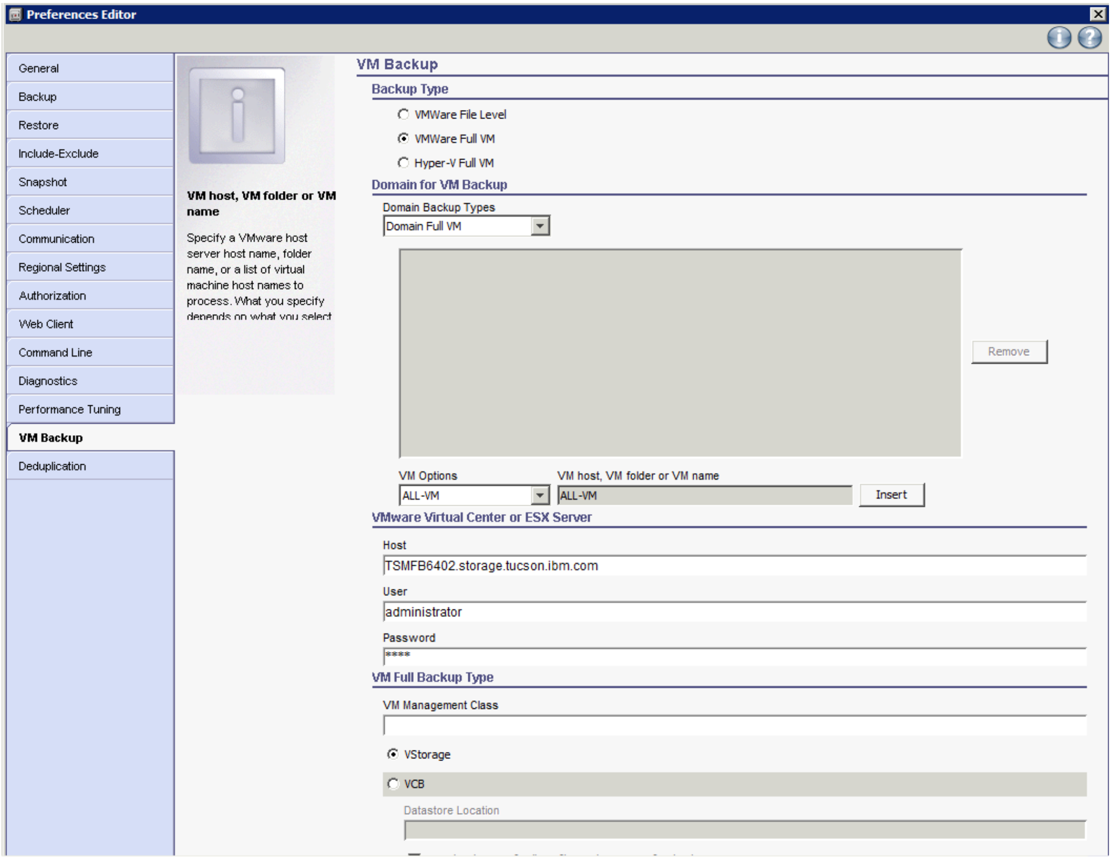


3.2 配置 VM 备份：

启动 TSM backup GUI,选择 Edit-> Client Preferences:



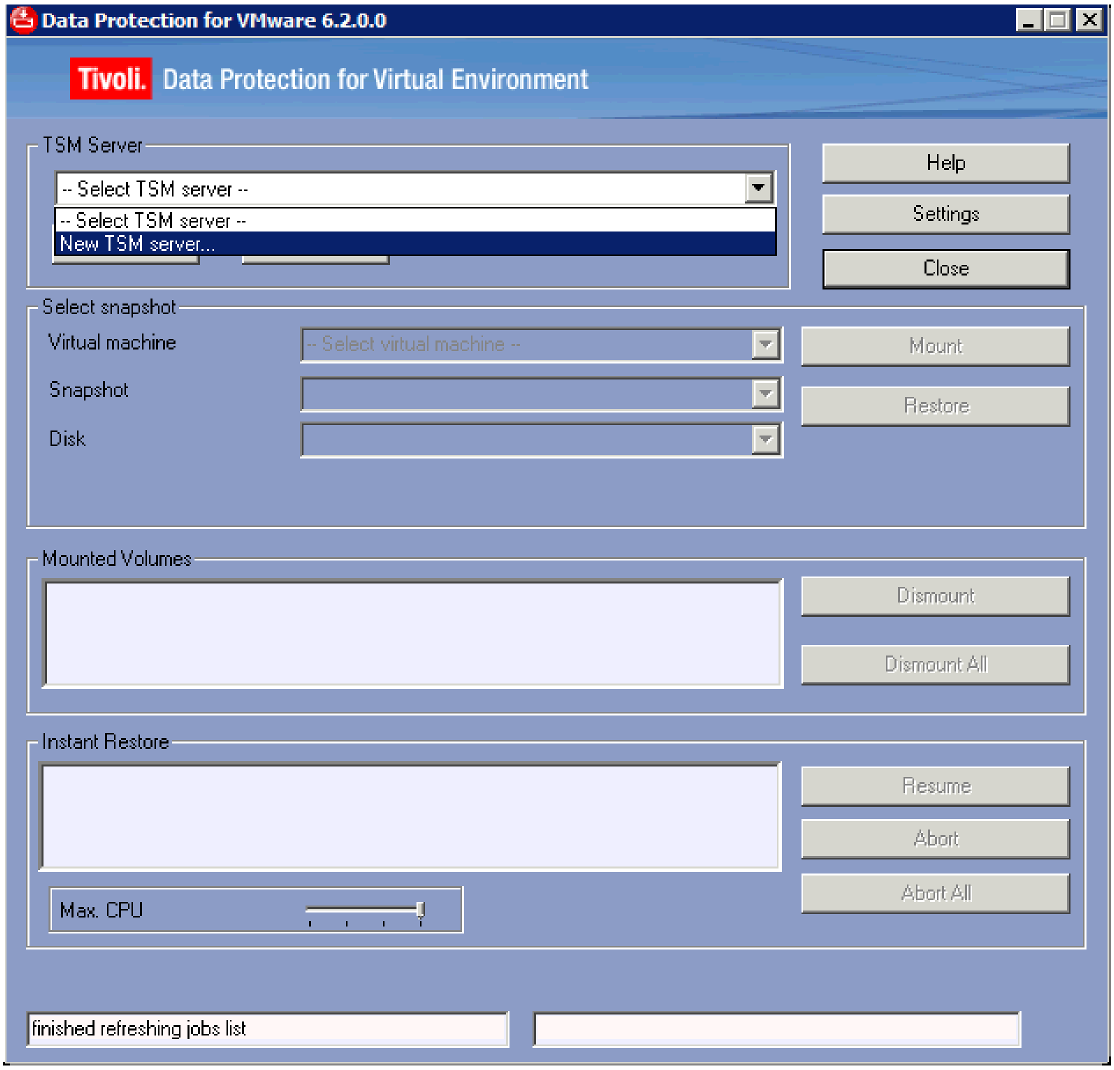
按照下图进行 vmware 的配置：



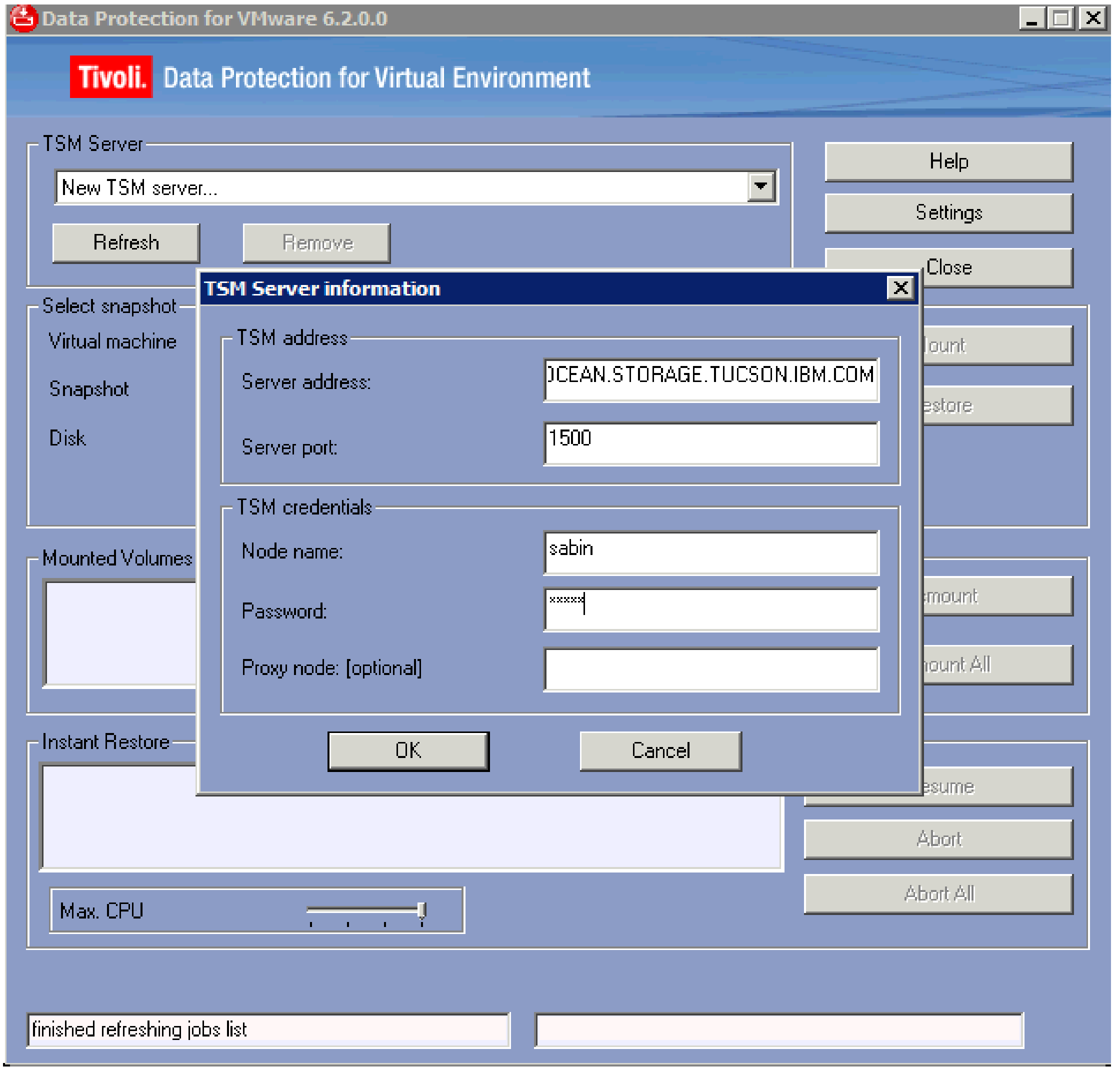
3.3 配置 instant restore/iscsi mount/virtual mount

3.3.1 Windows 平台

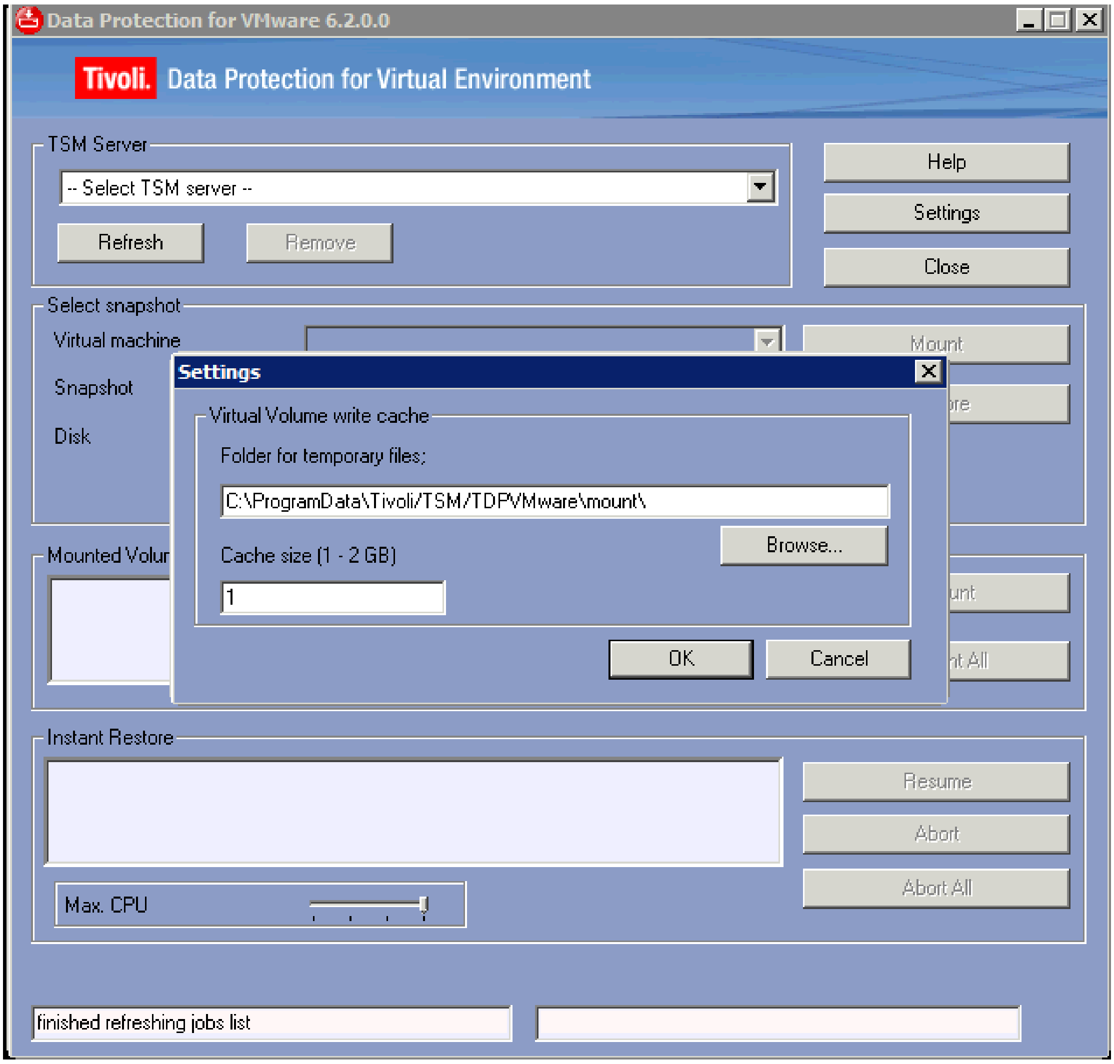
新建 TSM server，地址同 baclient 配置



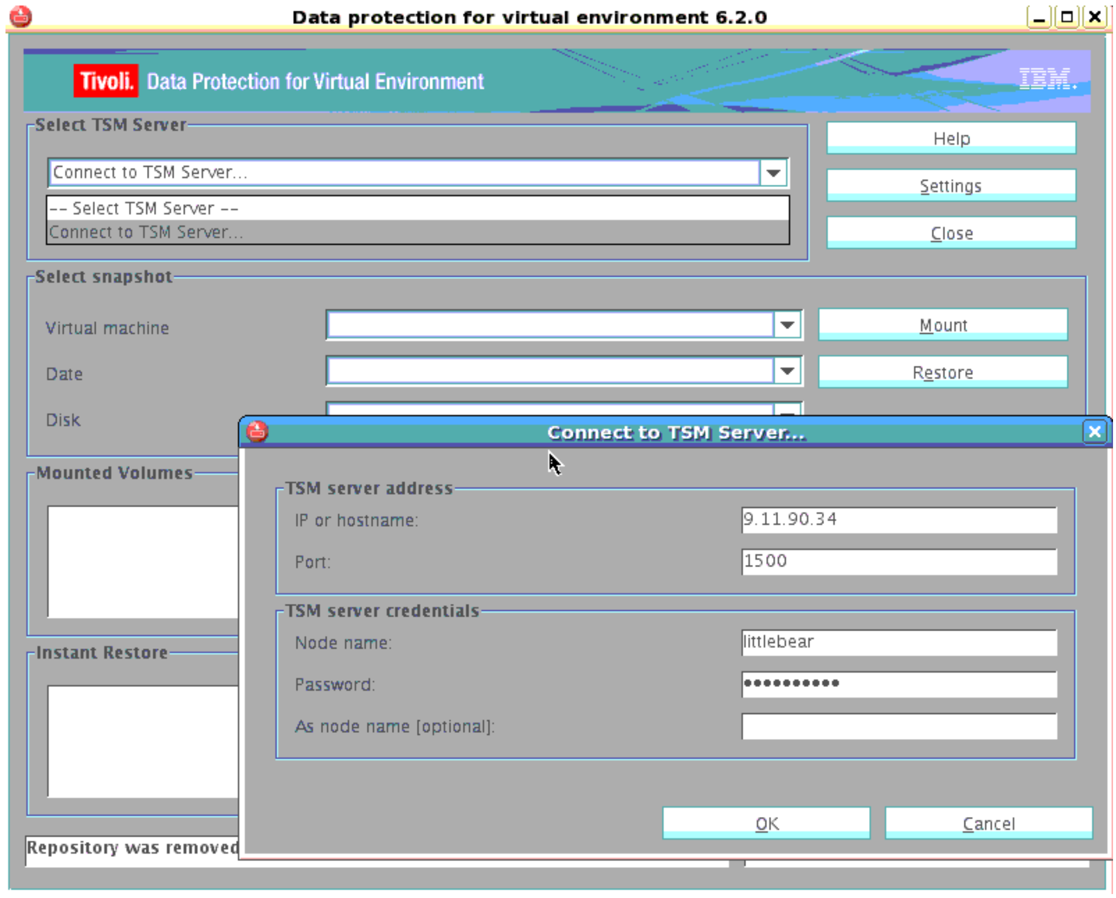
输入 nodename,password，同 baclient 配置



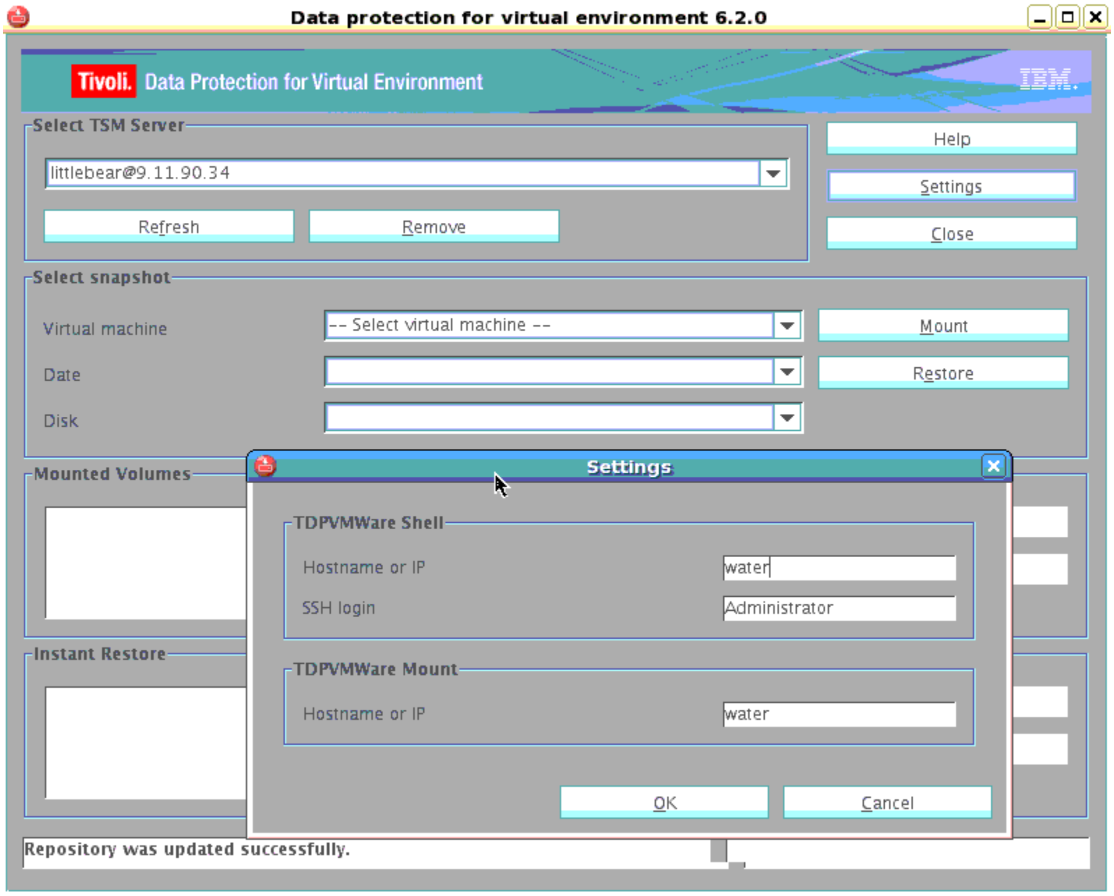
配置 virtual volume write cache.


Data Protection for VMware 6.2.0.0
Tivoli. Data Protection for Virtual Environment
TSM Server
-- Select TSM server --
Refresh
Remove
Help
Settings
Close
Select snapshot
Virtual machine
Snapshot
Disk
Mount
Mounted Volur
Instant Restore
Resume
Abort
Abort All
Max. CPU
finished refreshing jobs list
Settings
Virtual Volume write cache
Folder for temporary files:
C:\ProgramData\Tivoli/TSM/TDPVMware\mount\
Browse...
Cache size (1 - 2 GB)
1
OK
Cancel

3.3.2 Linux 平台



将 TDPVMware shell 配置成一台 windows 机器，该机器需安装 TSM for VE



3.4 配置对 Linux 虚拟机的支持：

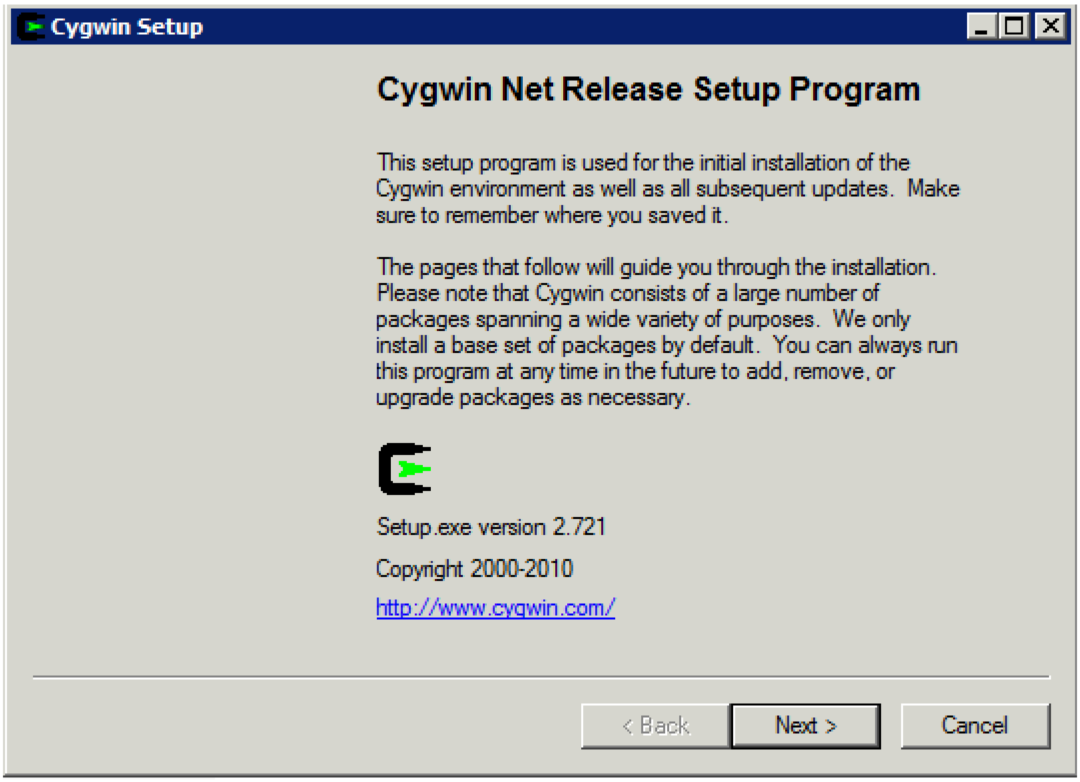
如果要对 Linux 的虚拟机进行备份需要安装 Cygwin 1.5.25 或者更高版本。安装配置

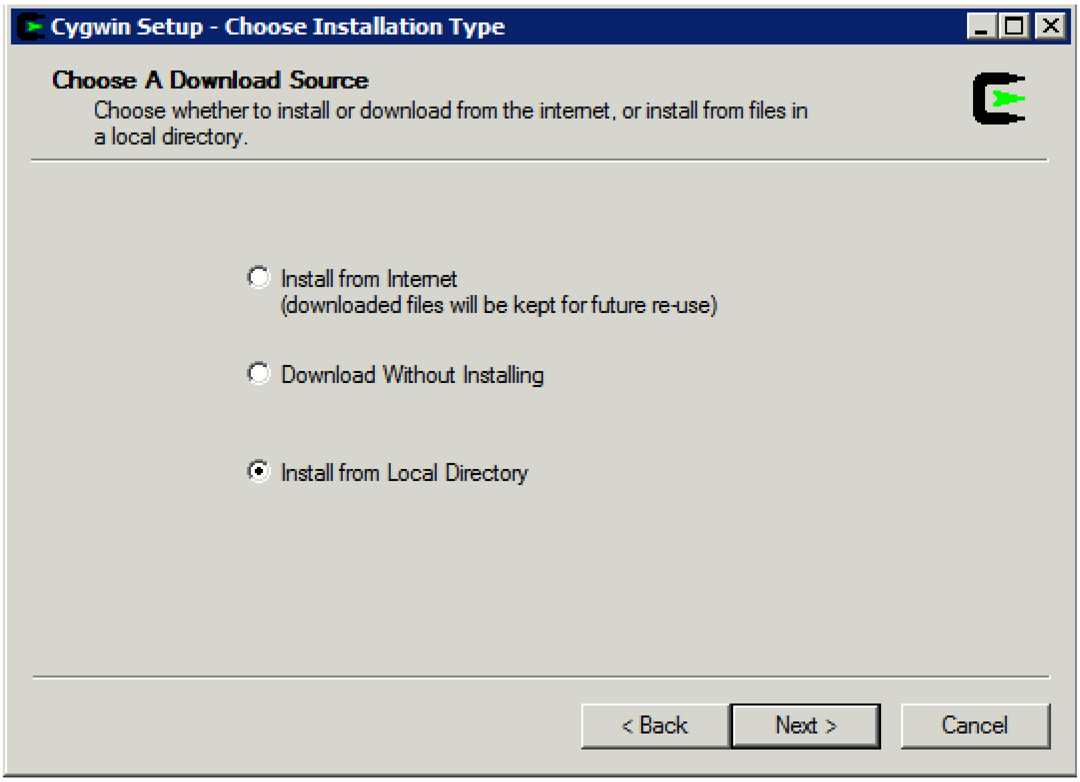


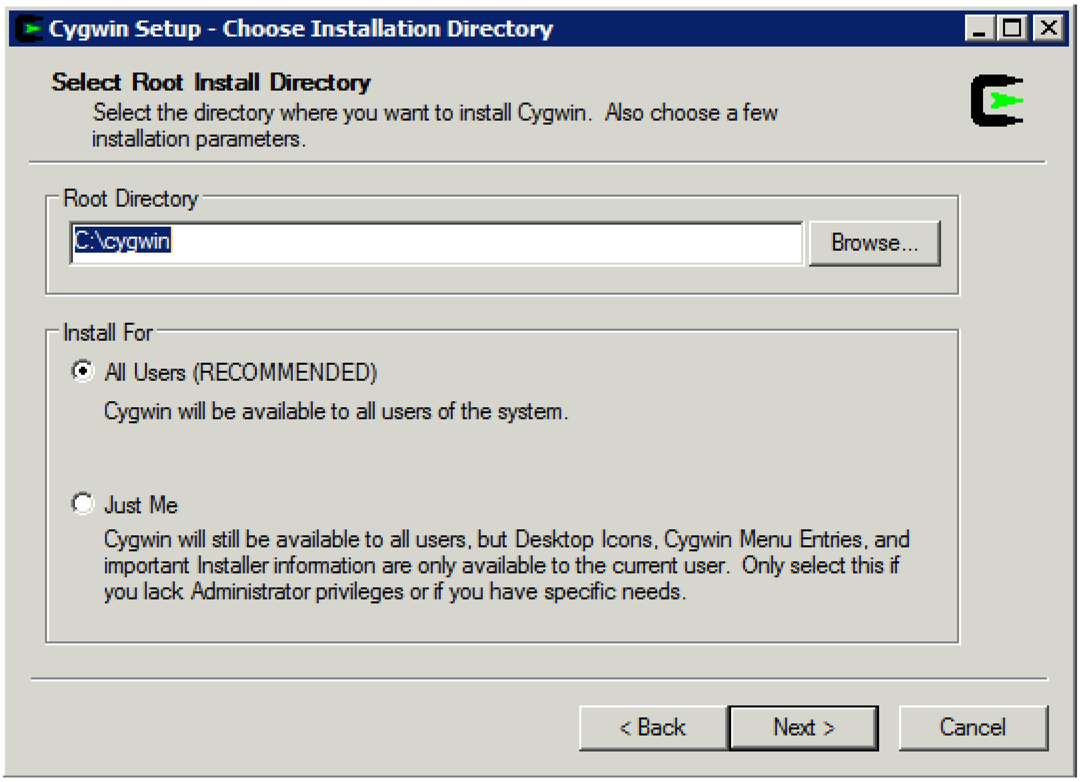
README. doc

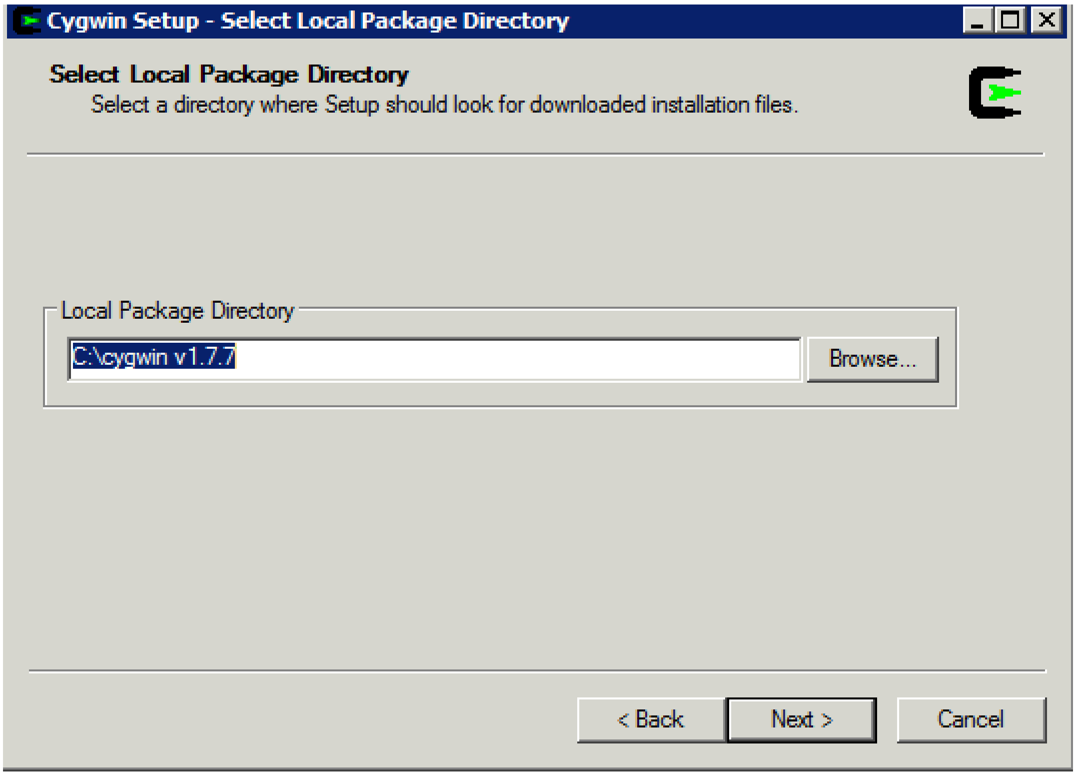
请参考如下文档：

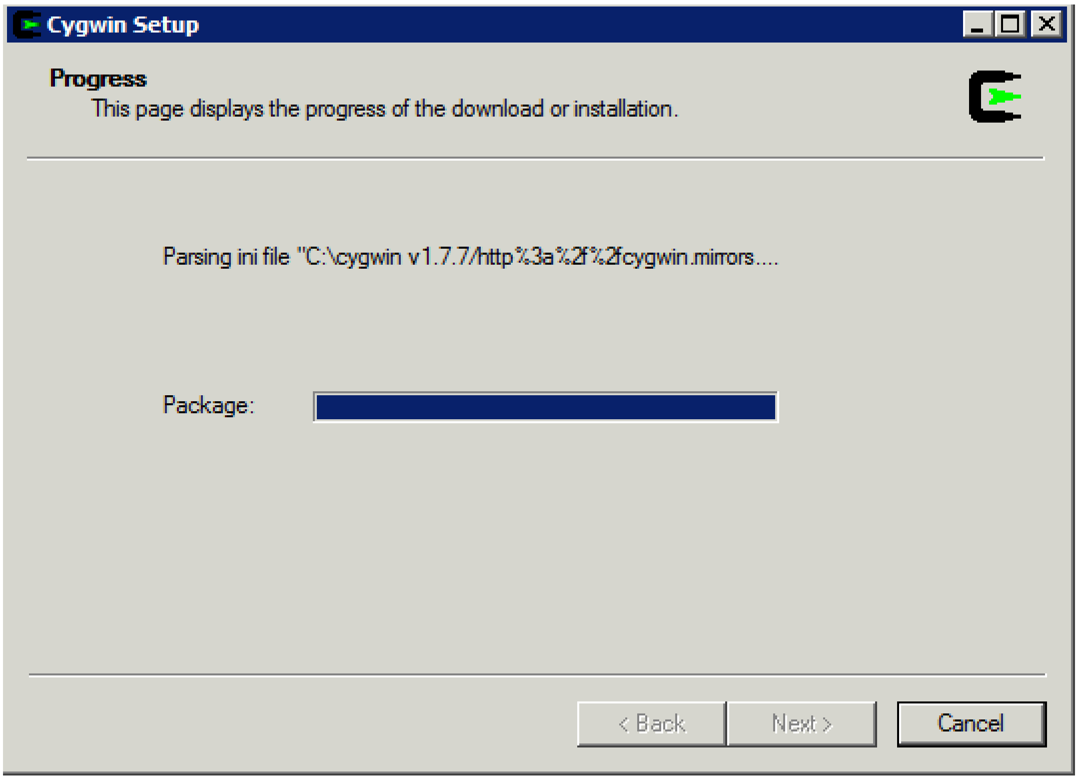
3.4.1 安装 Cygwin






Cygwin Setup - Choose Installation Directory
Select Root Install Directory
Select the directory where you want to install Cygwin. Also choose a few installation parameters.
Root Directory
C:\cygwin
Browse...
Install For
All Users (RECOMMENDED)
Cygwin will be available to all users of the system.
Just Me
Cygwin will still be available to all users, but Desktop Icons, Cygwin Menu Entries, and important Installer information are only available to the current user. Only select this if you lack Administrator privileges or if you have specific needs.
< Back
Next >
Cancel


Cygwin Setup - Select Local Package Directory
Select Local Package Directory
Select a directory where Setup should look for downloaded installation files.
Local Package Directory
C:\cygwin v1.7.7
Browse...
< Back
Next >
Cancel



参照该网页：

http://pigtail.net/LRP/printsrv/cygwin-sshd.html

click the little View button for "Full" view 

,

find the package "**openssh**", click on the word "**skip**" so that an ☒ appears in Column B,

see [this illustration.]()

(optional) find the package "**tcp_wrappers**", click on the word "**skip**" so that an ☒ appears in Column B,

if you add "tcp_wrapper", you will most likely get "**ssh-exchange-identification: Connectiion closed by remote host**" error.

If you get that error, edit the file **/etc/hosts.allow** and add these two lines

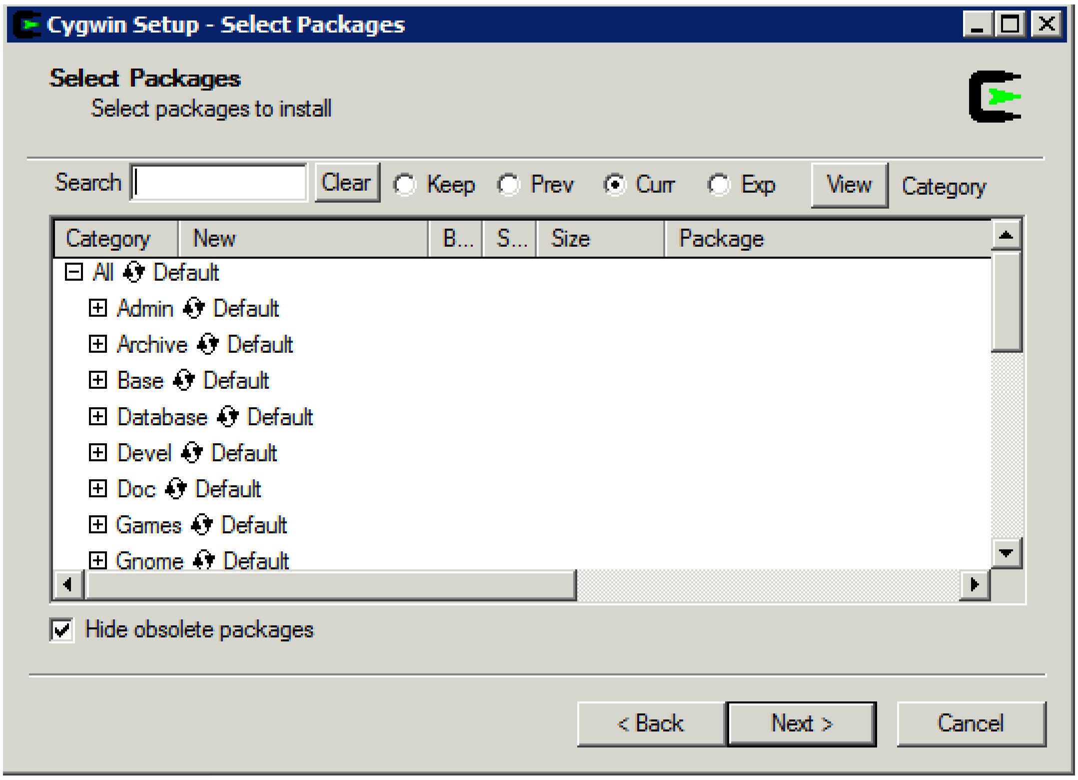
ALL: 127.0.0.1/32 : allow

ALL: [::1]/128: allow

before the PARANOID line.

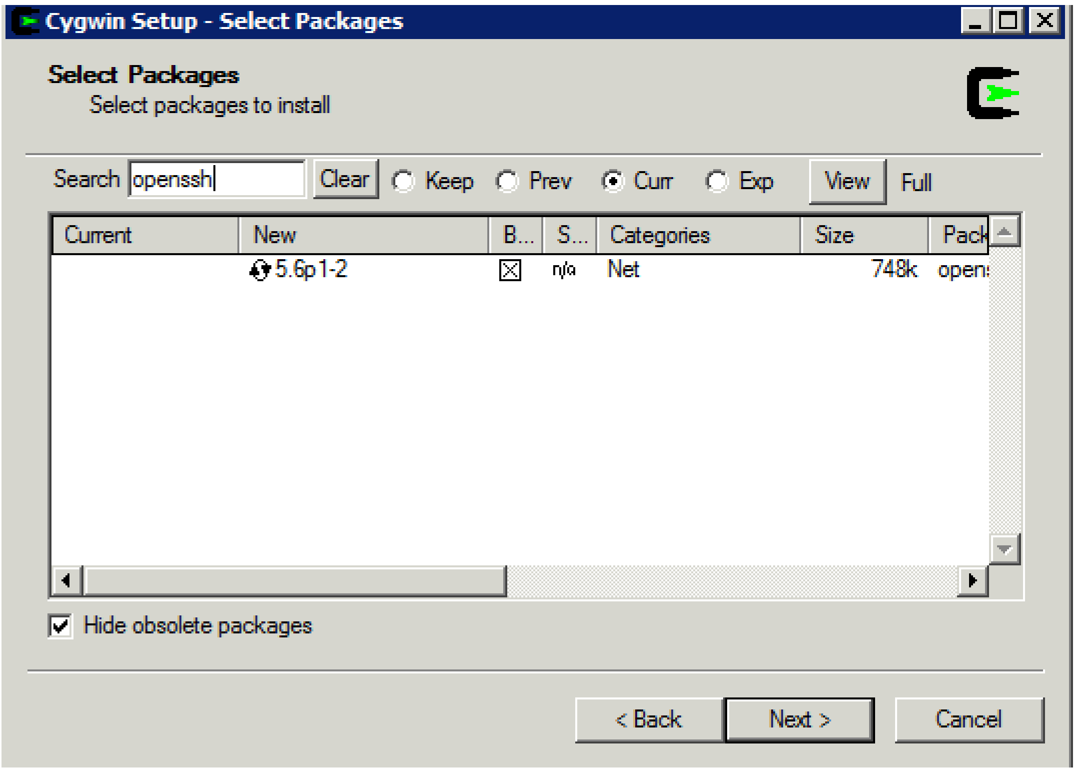
(optional) find the package "**diffutils**", click on the word "**skip**" so that an ☒ appears in Column B,

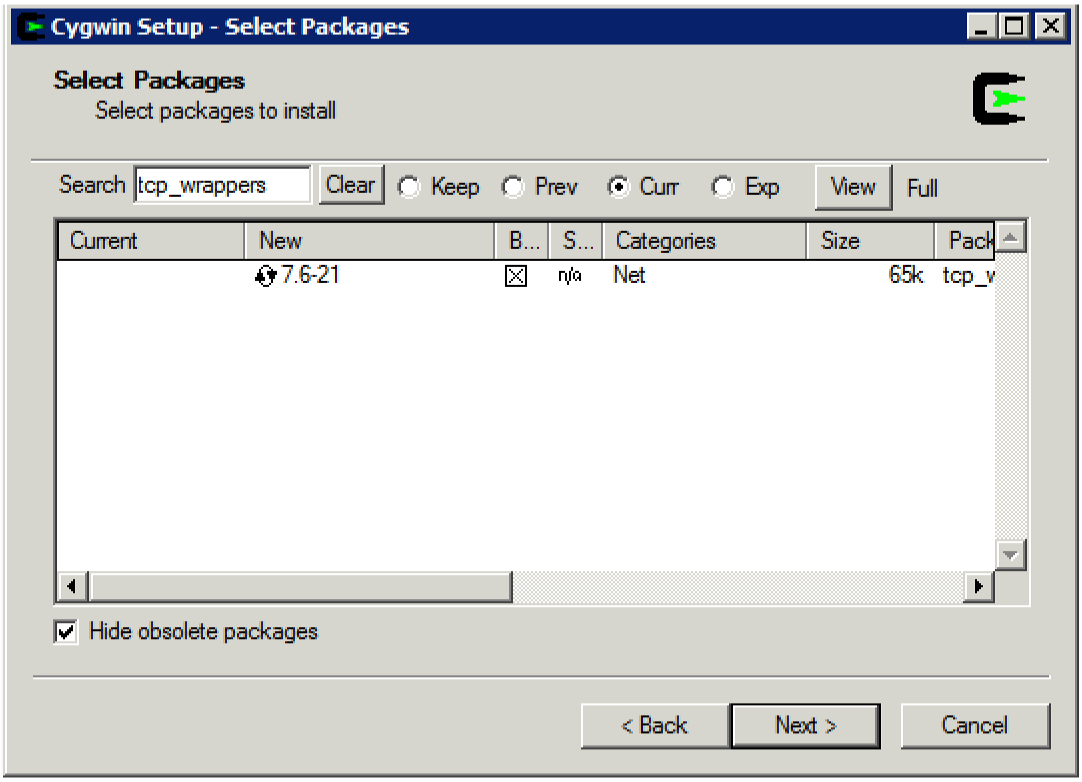
find the package "**zlib**", click on the word "**skip**" (it should be already selected) so that an ☒ appears in Column B.

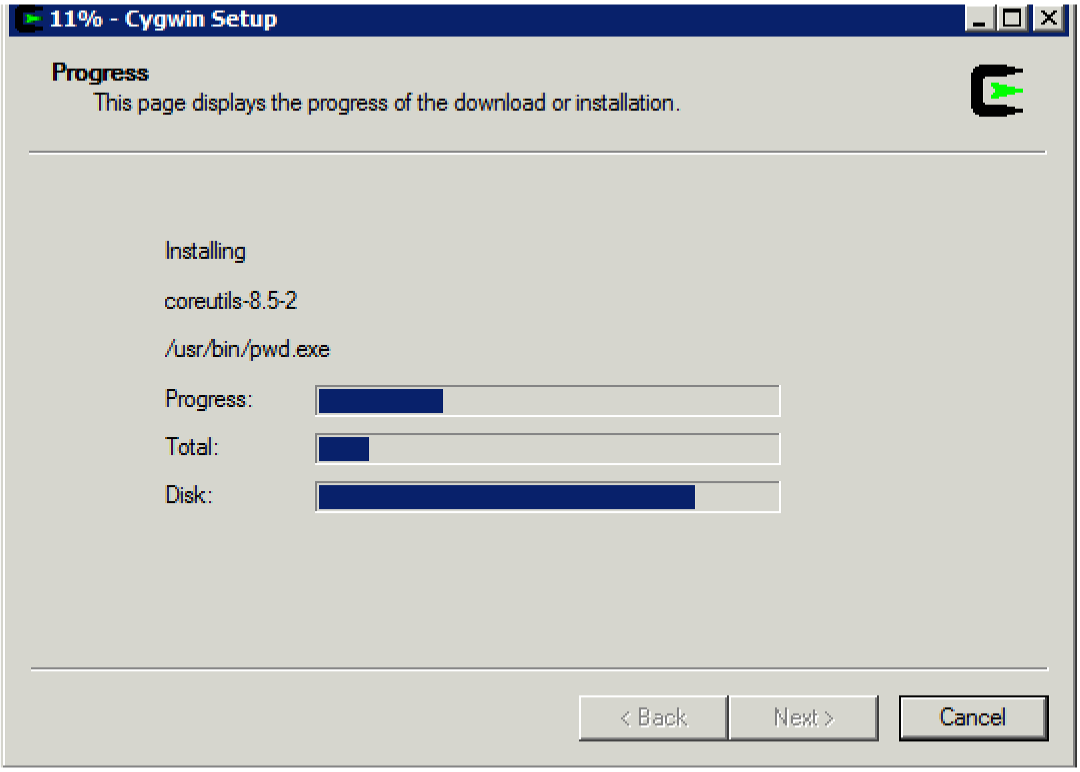


依次安装如下包：

openssh,tcp_wrappers,diffutils,zlib



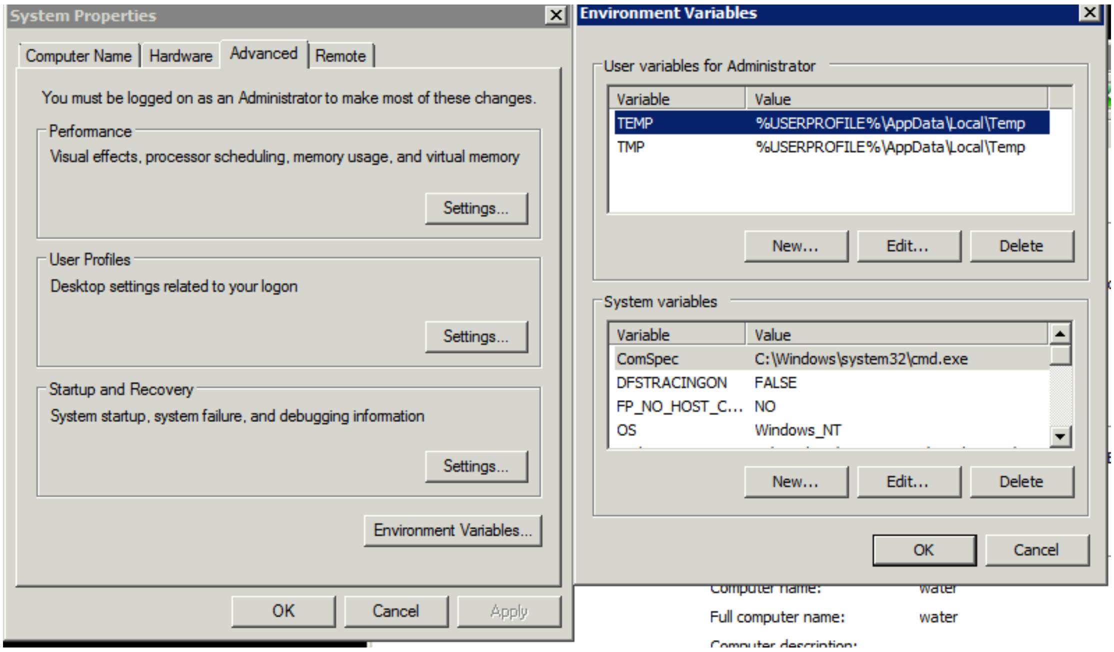




安装完毕。

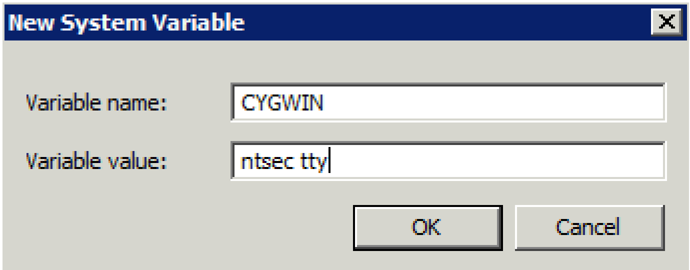
3.4.2 配置 Cygwin

修改 Windows 环境变量：

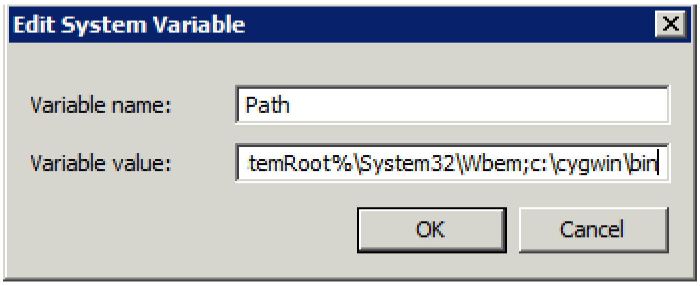


a. variable name: CYGWIN

b. variable value: ntsec tty



edit Windows system variable PATH and append **;c:\cygwin\bin**



open cygwin shell and run the following commands:

chmod +r /etc/passwd

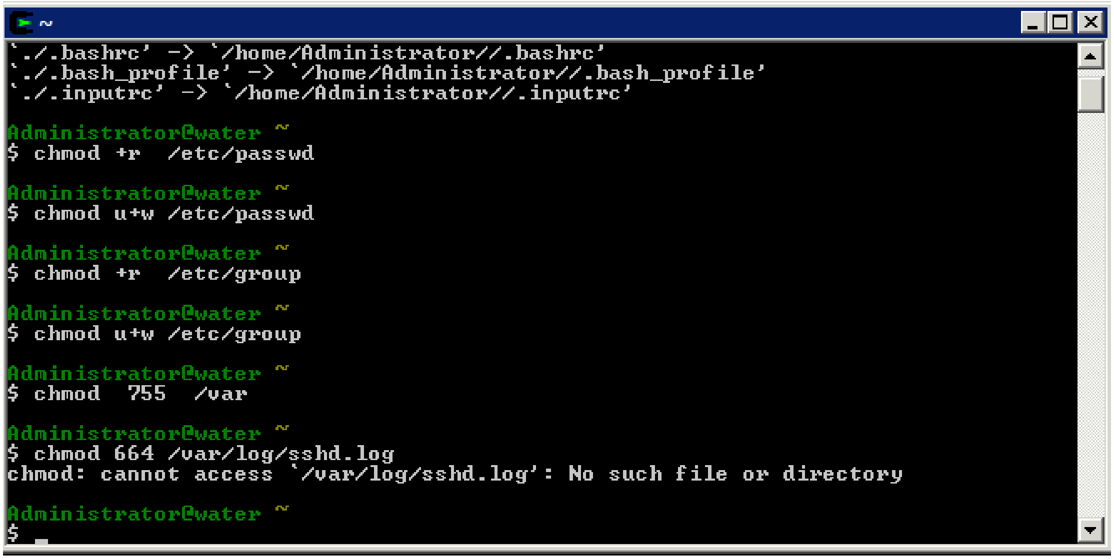
chmod u+w /etc/passwd

chmod +r /etc/group

chmod u+w /etc/group

chmod 755 /var

chmod 664 /var/log/sshd.log



run **ssh-host-config** (manuall answer **Yes** to questions except)

When the script stops and asks you for Enter the value of CYGWIN for the daemon: your answer is **ntsec tty**

If the script says "This script plans to use cyg_server, Do you want to use a different name? Answer **no**.

```
*** Query: Overwrite existing /etc/sshd_config file? (yes/no) yes
*** Info: Creating default /etc/sshd_config file
*** Info: Privilege separation is set to yes by default since OpenSSH 3.3.
*** Info: However, this requires a non-privileged account called 'sshd'.
*** Info: For more info on privilege separation read /usr/share/doc/openssh/READ
ME.privsep.
*** Query: Should privilege separation be used? (yes/no) yes
*** Info: Note that creating a new user requires that the current account have
*** Info: Administrator privileges.  Should this script attempt to create a
*** Query: new local account 'sshd'? (yes/no) yes
*** Info: Updating /etc/sshd_config file


*** Warning: The following functions require administrator privileges!

*** Query: Do you want to install sshd as a service?
*** Query: (Say "no" if it is already installed as a service) (yes/no) yes
*** Query: Enter the value of CYGWIN for the daemon: [] ntsec tty
*** Info: On Windows Server 2003, Windows Vista, and above, the
*** Info: SYSTEM account cannot setuid to other users -- a capability
*** Info: sshd requires.  You need to have or to create a privileged
*** Info: account.  This script will help you do so.

*** Info: You appear to be running Windows 2003 Server or later.  On 2003
*** Info: and later systems, it's not possible to use the LocalSystem
*** Info: account for services that can change the user id without an
*** Info: explicit password (such as passwordless logins [e.g. public key
*** Info: authentication] via sshd).

*** Info: If you want to enable that functionality, it's required to create
*** Info: a new account with special privileges (unless a similar account
*** Info: already exists). This account is then used to run these special
*** Info: servers.

*** Info: Note that creating a new user requires that the current account
*** Info: have Administrator privileges itself.

*** Info: No privileged account could be found.

*** Info: This script plans to use 'cyg_server'.
*** Info: 'cyg_server' will only be used by registered services.
*** Query: Do you want to use a different name? (yes/no) no
*** Query: Create new privileged user account 'cyg_server'? (yes/no) yes
*** Info: Please enter a password for new user cyg_server.  Please be sure
*** Info: that this password matches the password rules given on your system.
*** Info: Entering no password will exit the configuration.
*** Query: Please enter the password:
*** Query: Reenter:

*** Info: User 'cyg_server' has been created with password 'cyg_server'.
*** Info: If you change the password, please remember also to change the
*** Info: password for the installed services which use (or will soon use)
*** Info: the 'cyg_server' account.

*** Info: Also keep in mind that the user 'cyg_server' needs read permissions
*** Info: on all users' relevant files for the services running as 'cyg_server'.

*** Info: In particular, for the sshd server all users' .ssh/authorized_keys
*** Info: files must have appropriate permissions to allow public key
*** Info: authentication. (Re-)running ssh-user-config for each user will set
*** Info: these permissions correctly. [Similary restrictions apply, for
*** Info: instance, for .rhosts files if the rshd server is running, etc].
```

run **cyglsa-config** and reboot afterwards.

```
$ cyglsa-config

Warning: Registering the Cygwin LSA authentication package requires
administrator privileges!  You also have to reboot the machine to
activate the change.

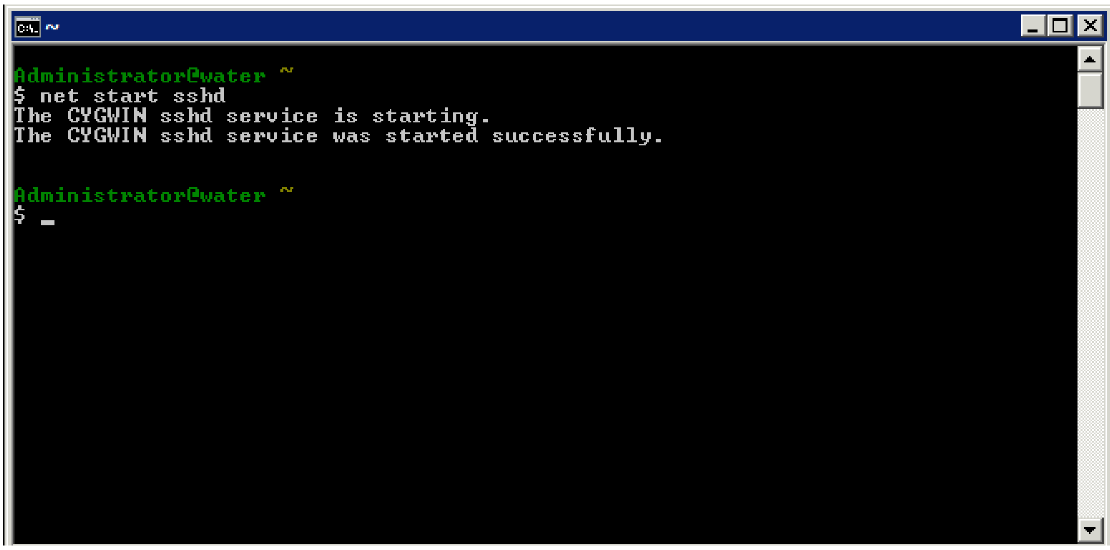
Are you sure you want to continue? (yes/no) yes

Cygwin LSA authentication package registered.

Activating Cygwin's LSA authentication package requires to reboot.

Administrator@water ~
$ _
```

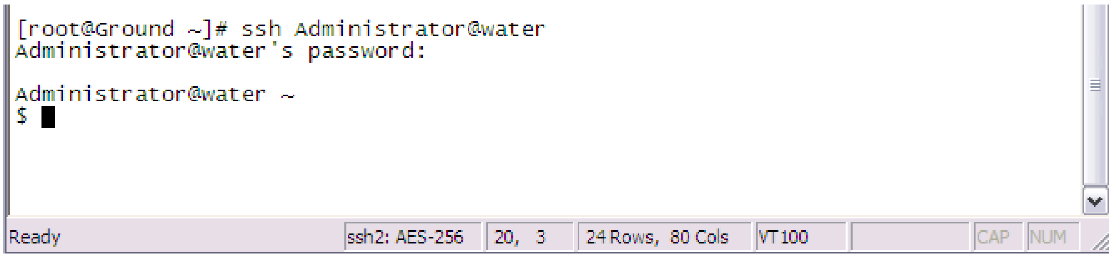
After reboot open cygwin shell and run **net start sshd**



check the connection between the Linux client machine to the Windows server machine. From the Linux machine run

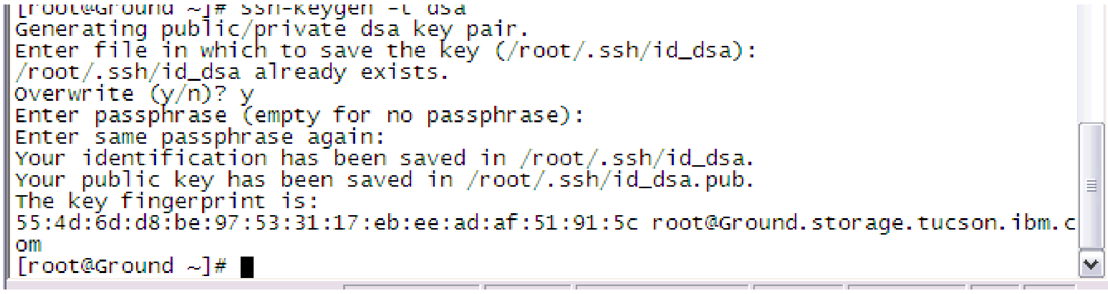
ssh Administrator@windows_machine

A connection is made for the first time, we need to confirm it and insert the password **use local administrator password**



1. After a valid ssh connection is made between the machines, it is time to configure the authentication keys files. The authentication between the ssh client and server is done by 2 files:
    c. Private, public key files – in the client
    d. Public key file – in the server
2. From the Linux client run **ssh-keygen -t dsa** and press Enter to all questions.

   Use blank password when required to insert password.



3. From the Linux client run

   cd .ssh

scp id_dsa.pub Administrator@windows_machine:/home/Administrator

```
[root@Ground .ssh]# scp id_dsa.pub Administrator@water:/home/Administrator
Administrator@water's password:
id_dsa.pub                                    100%  624     0.6KB/s   00:00
[root@Ground .ssh]#
```

4. From the Windows server cygwin shell run

   mkdir .ssh

   chmod 700 .ssh

   cd .ssh

   touch authorized_keys

   cat ../id_dsa.pub >> authorized_keys

   rm ../id_dsa.pub

```
~/.ssh
$ net start sshd
The CYGWIN sshd service is starting.
The CYGWIN sshd service was started successfully.

Administrator@water ~
$ mkdir .ssh

Administrator@water ~
$ chmod 700 .ssh

Administrator@water ~
$ cd .ssh

Administrator@water ~/.ssh
$ touch authorized_keys

Administrator@water ~/.ssh
$ cat ../id_dsa.pub >> authorized_keys

Administrator@water ~/.ssh
$ rm ../id_dsa.pub

Administrator@water ~/.ssh
$ _
```

5. In addition, the ssh server needs to be configured to use the authentication files (via the ssh server configuration file).

   The ssh service configuration file is locatd in c:\cygwin\etc\sshd_config.

   Make sure you have privileges to edit the file.

   Edit c:\cygwin\etc\sshd_config and unmark the following lines:

   Protocol 2

   HostKey /etc/ssh_host_dsa_key

   RSAAuthentication yes

   PubkeyAuthentication yes

   AuthorizedKeysFile

   In the **AuthorizedKeysFile** line edit the value to **/home/Administrator/.ssh/authorized_keys**

   这一步是 optioanl 的，如果可以从 linux 的机器上不需要密码登录上来，可跳过此步。

6. restart the sshd service from the cygwin shell

   net stop sshd

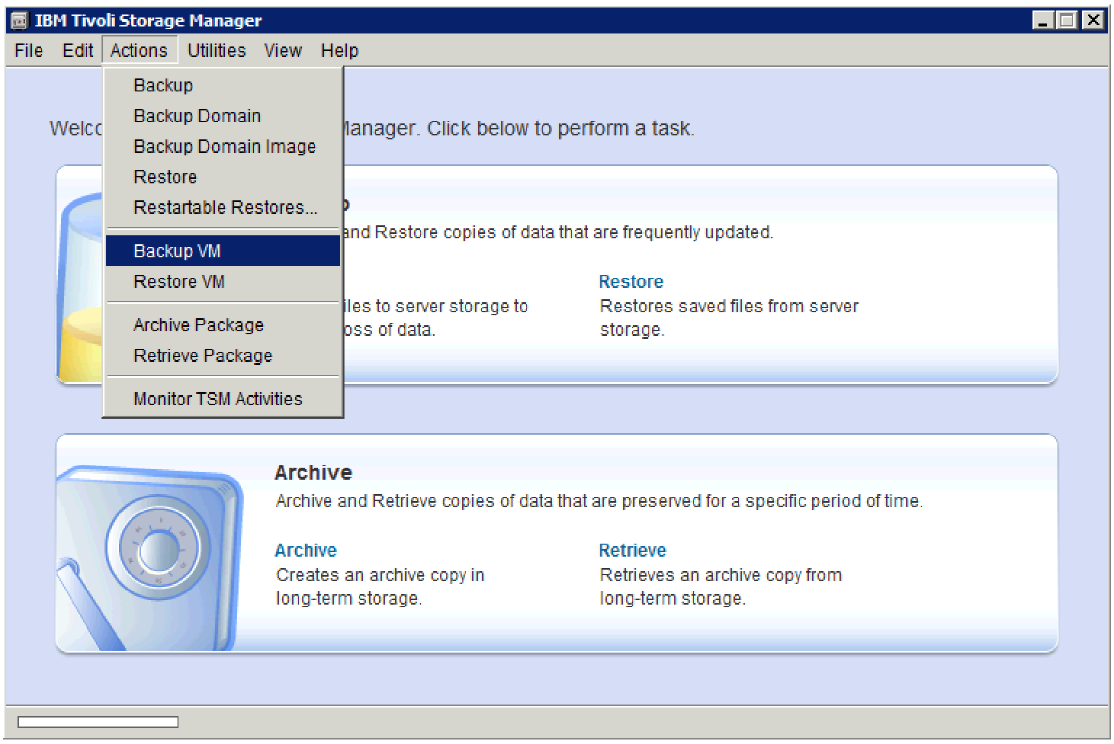
   net start sshd

7. Check the connection between the Linux client machine to the Windows server machine. From the Linux machine run
ssh Administrator@windows_machine
A connection is made without needing to insert a password.

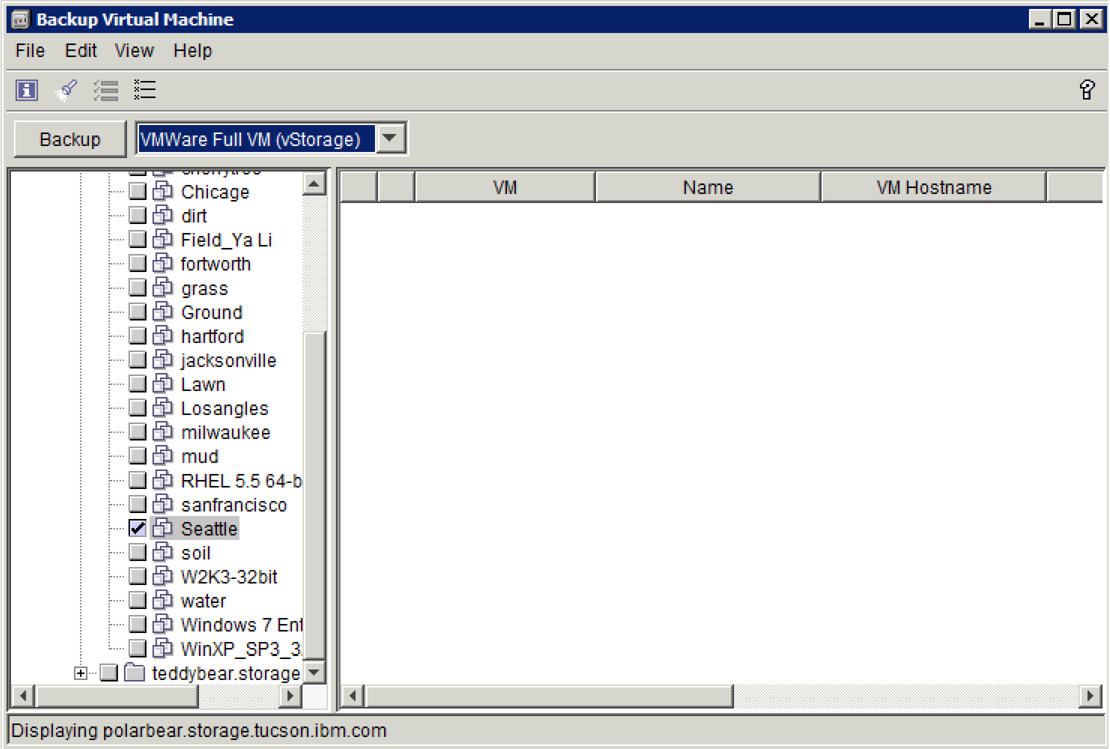
4 TSM For Virtual Environment v6.2 使用简介

4.1 使用 TSM for VE 来备份虚拟机：

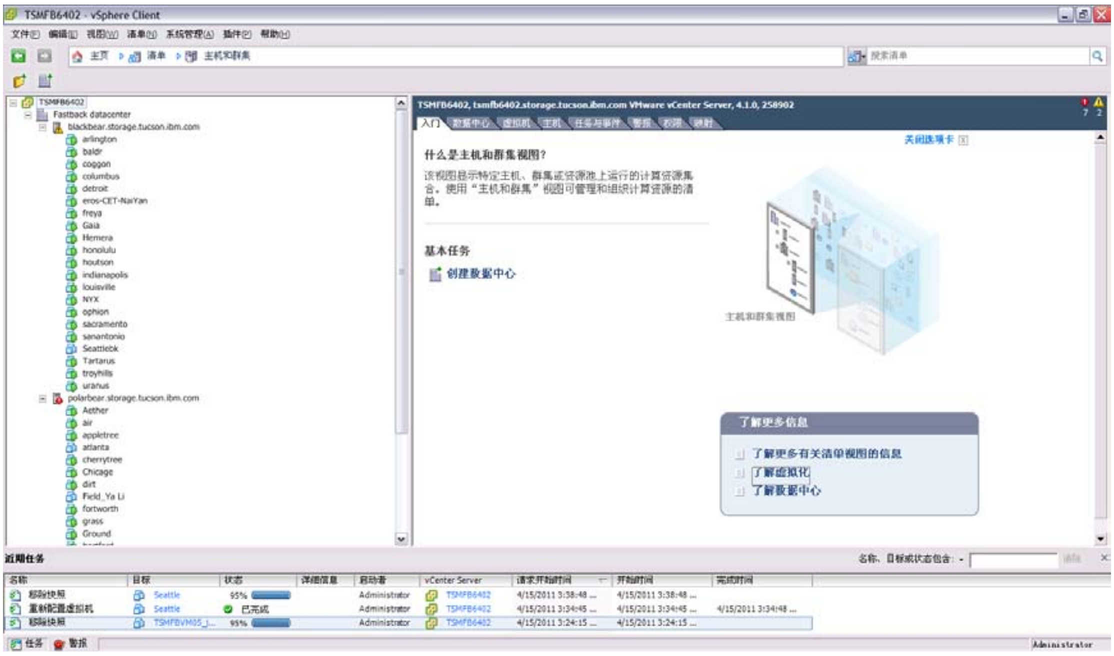
4.1.1 全备份



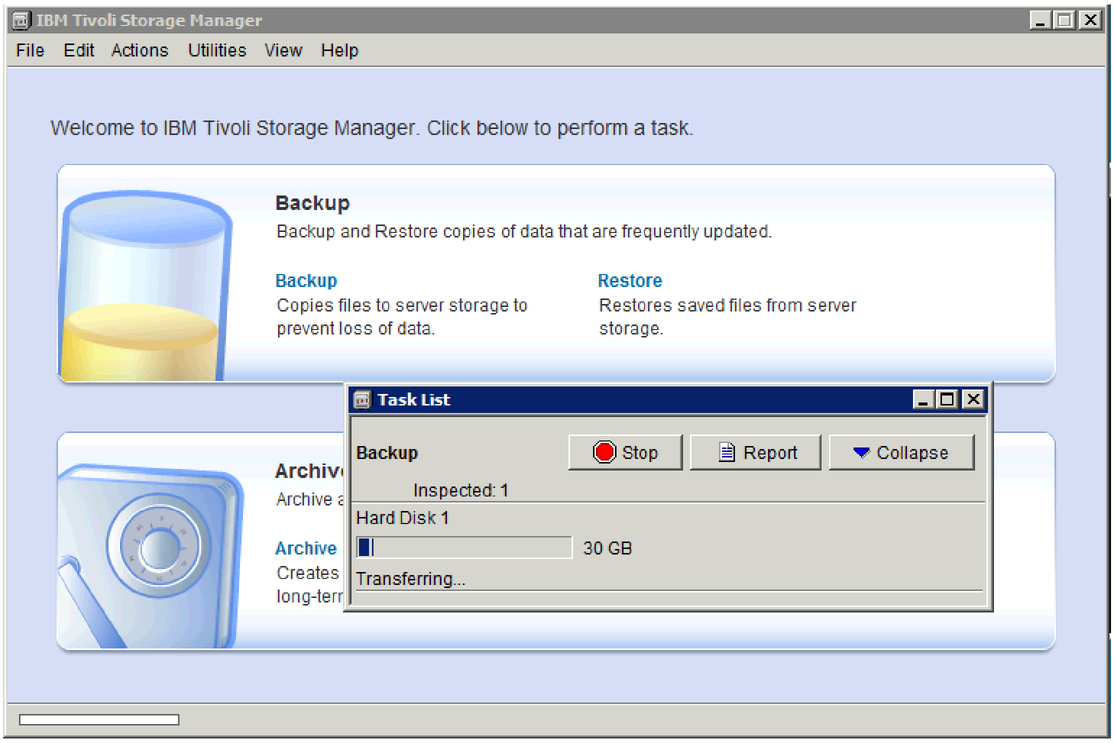
点击备份按钮，启动备份：

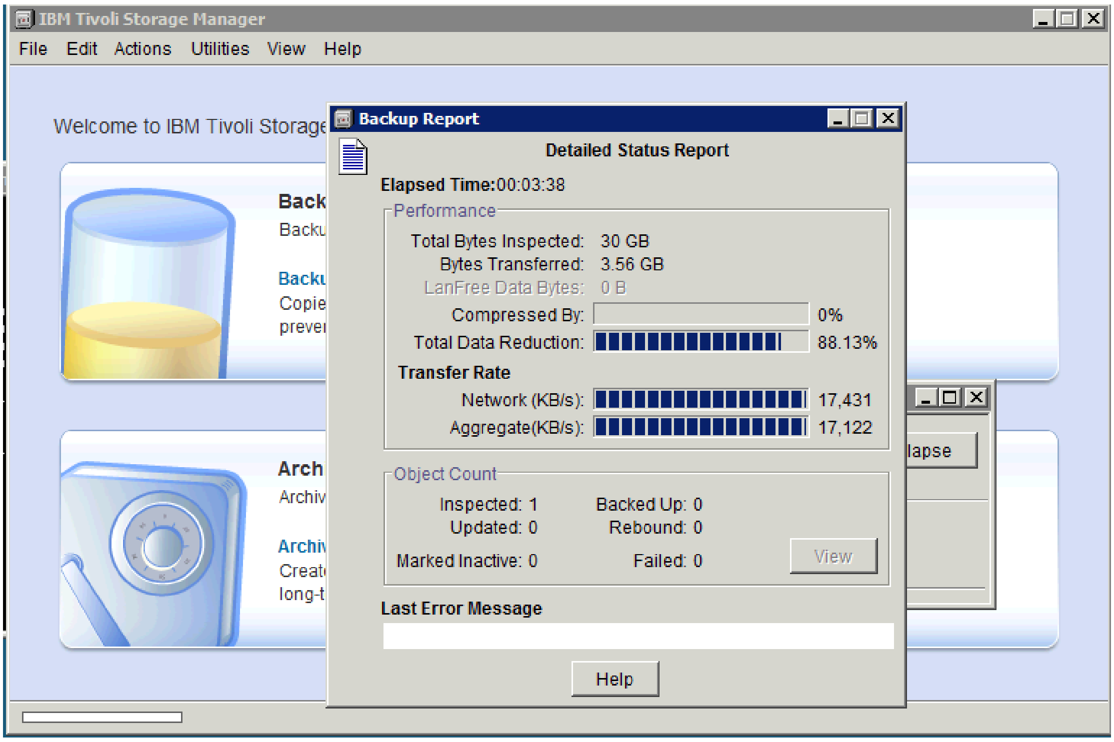


从 Vsphere Client 能看到开始生成虚拟机快照：

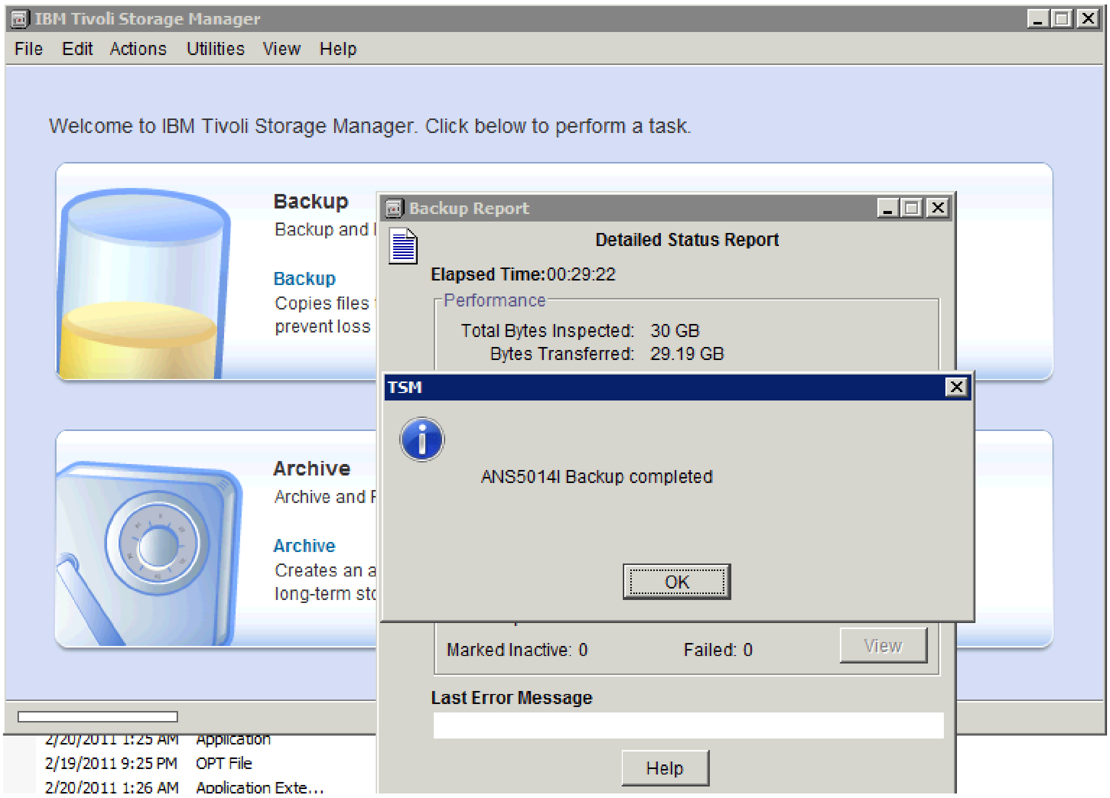


备份过程启动：

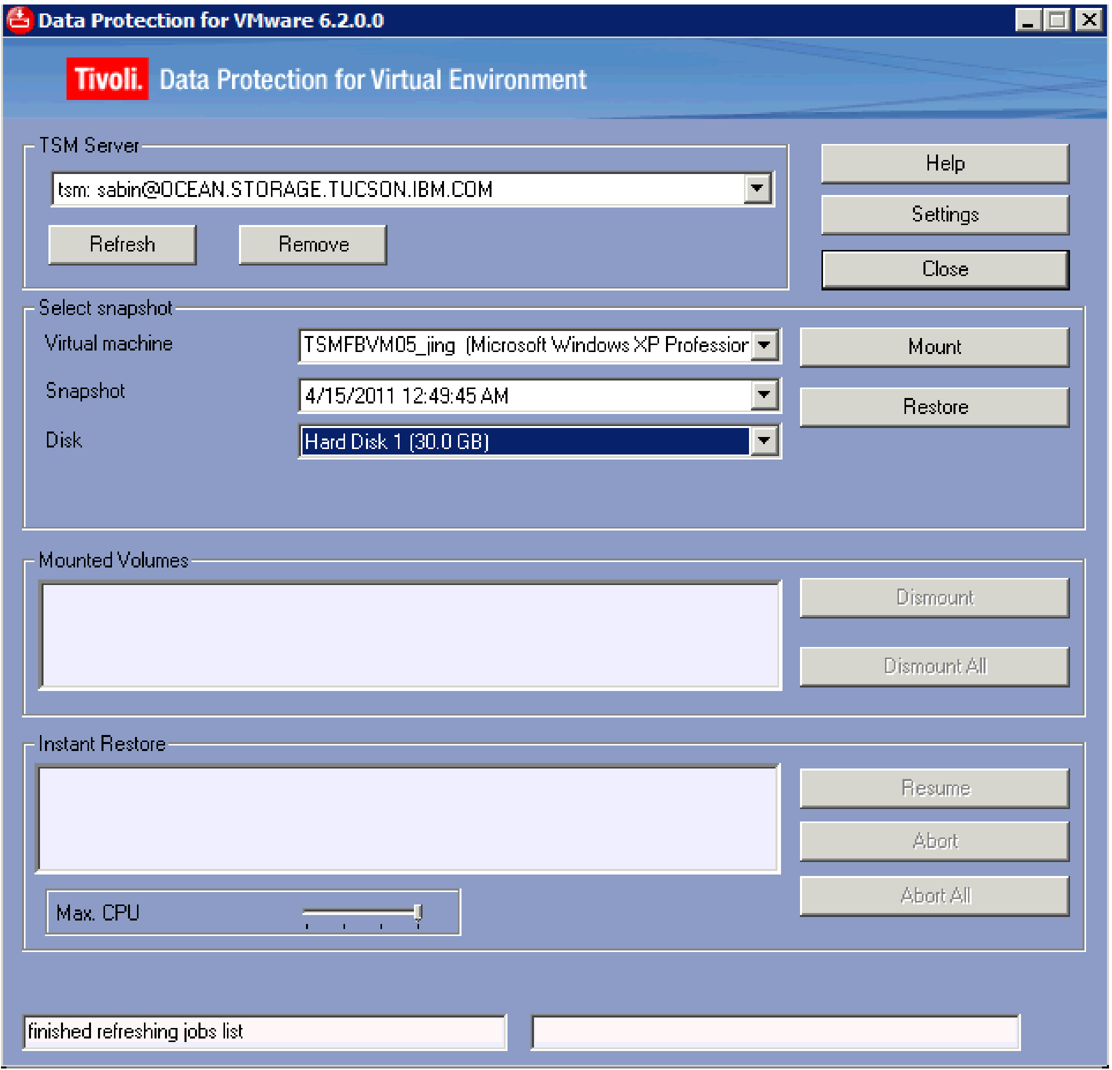

IBM Tivoli Storage Manager
File Edit Actions Utilities View Help
Welcome to IBM Tivoli Storage Manager. Click below to perform a task.
Backup
Backup and Restore copies of data that are frequently updated.
Backup
Copies files to server storage to prevent loss of data.
Restore
Restores saved files from server storage.
Task List
Backup
Stop
Report
Collapse
Inspected: 1
Hard Disk 1
30 GB
Transferring...


IBM Tivoli Storage Manager
File Edit Actions Utilities View Help
Backup Report
Detailed Status Report
Elapsed Time:00:03:38
Performance
Total Bytes Inspected: 30 GB
Bytes Transferred: 3.56 GB
LanFree Data Bytes: 0 B
Compressed By: 0%
Total Data Reduction: 88.13%
Transfer Rate
Network (KB/s): 17,431
Aggregate(KB/s): 17,122
Object Count
Inspected: 1
Backed Up: 0
Updated: 0
Rebound: 0
Marked Inactive: 0
Failed: 0
View
Last Error Message
Help

备份完成:



完成后从 TSM for Vmware Mount 菜单中能看到之前的 image 备份:



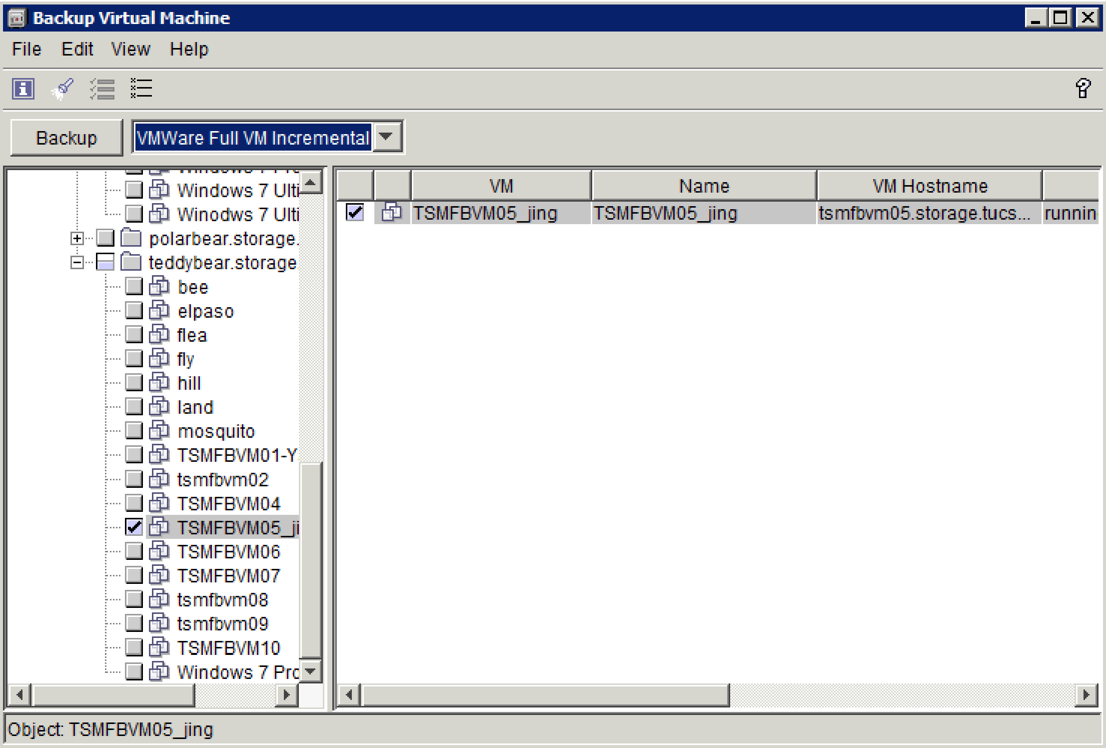
Dsm.opt 文件：
nodename SABIN
commm tcpip
tcpp 1500
tcps tsmservreaddress
DOMAIN.VMFULL "ALL-VM;"
VMBACKUPTYPE FULLVM
VMFULLTYPE VSTOR
VMCHOST xxx.storage.tucson.ibm.com
VMCUSER administrator
VMCPW ****

QUERYSCHEDPERIOD 1

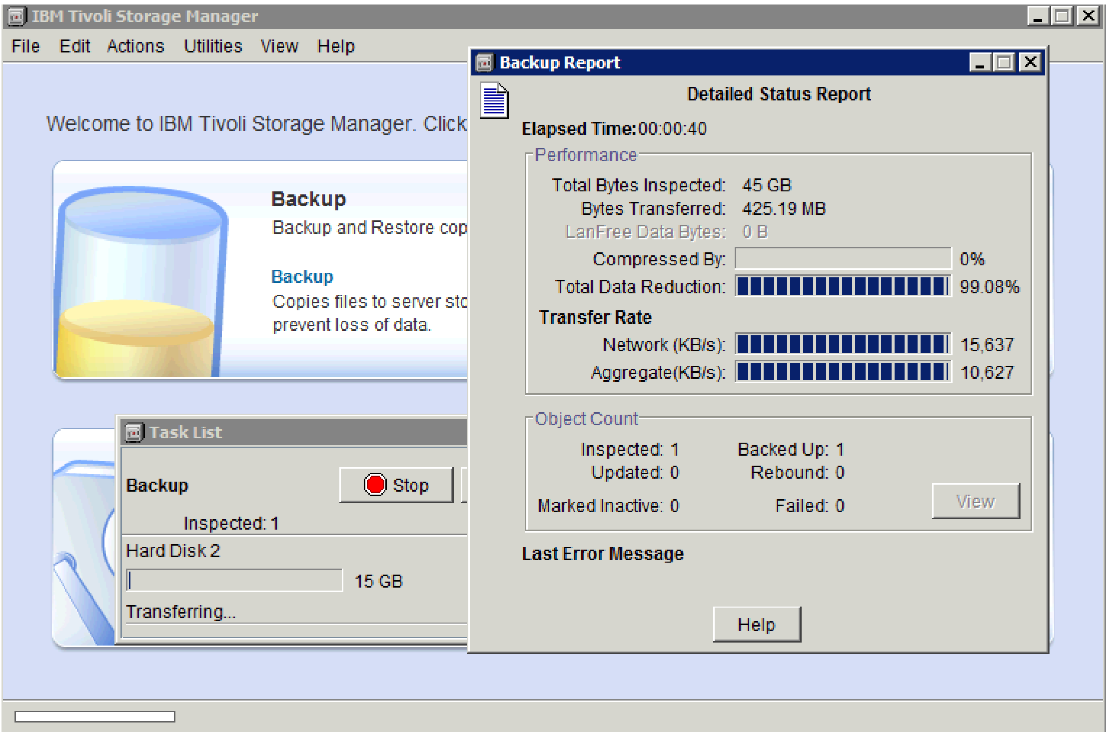
4.1.2 增量备份

在虚拟机上增加一块硬盘，并修改部分数据。

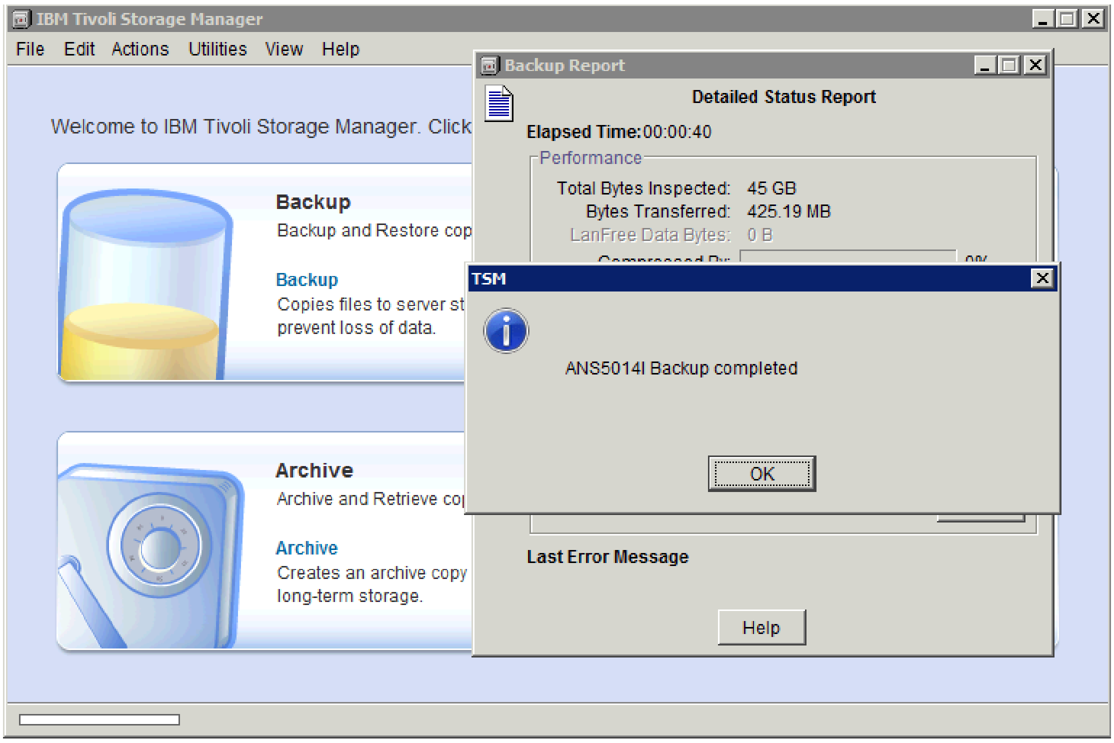
启用增量备份方式：



新增的盘的数据会备份：而之前已经备份过的数据盘直接跳过不备。增量备份！



备份完成：

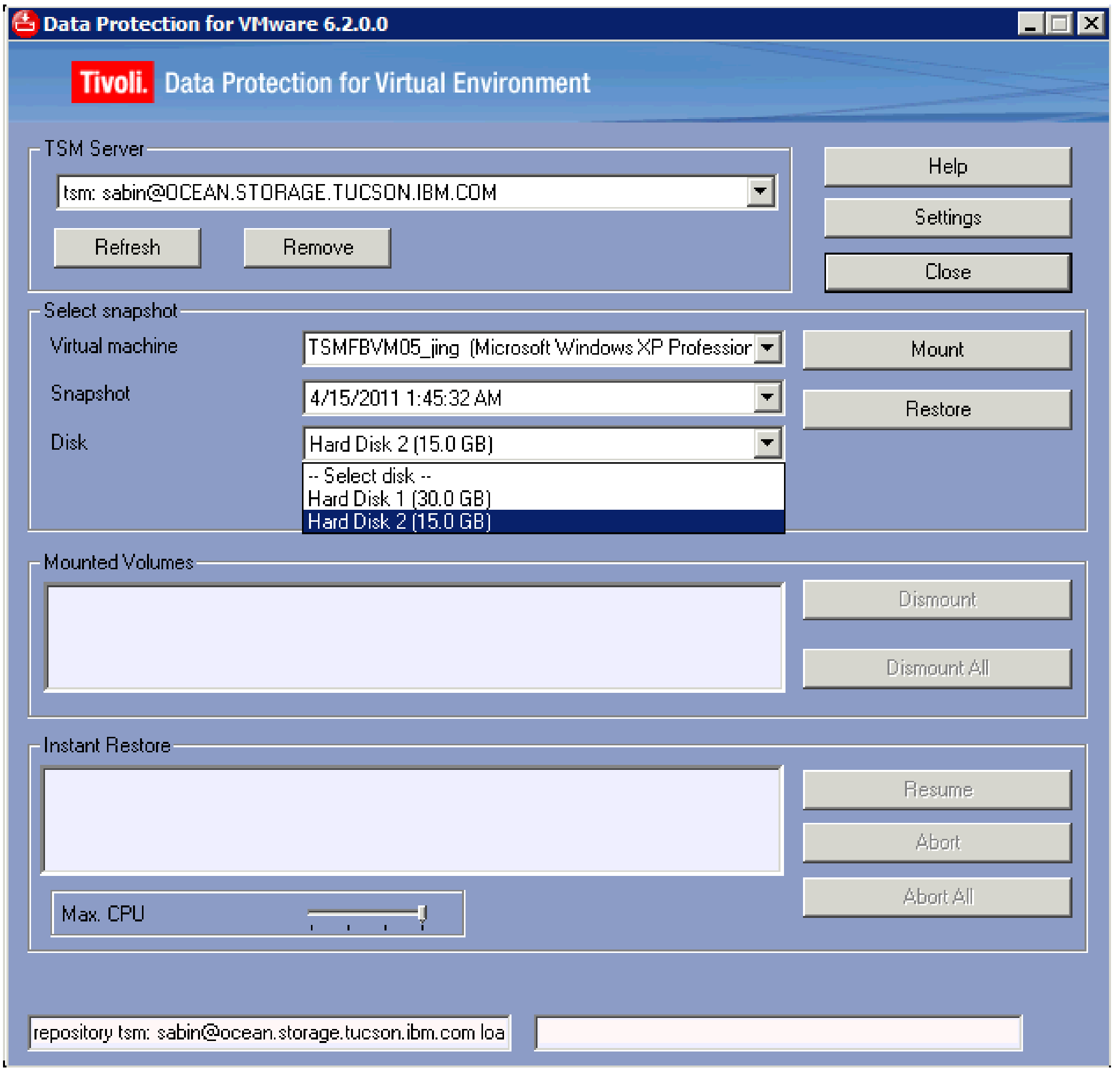


4.2 使用 Instant Restore

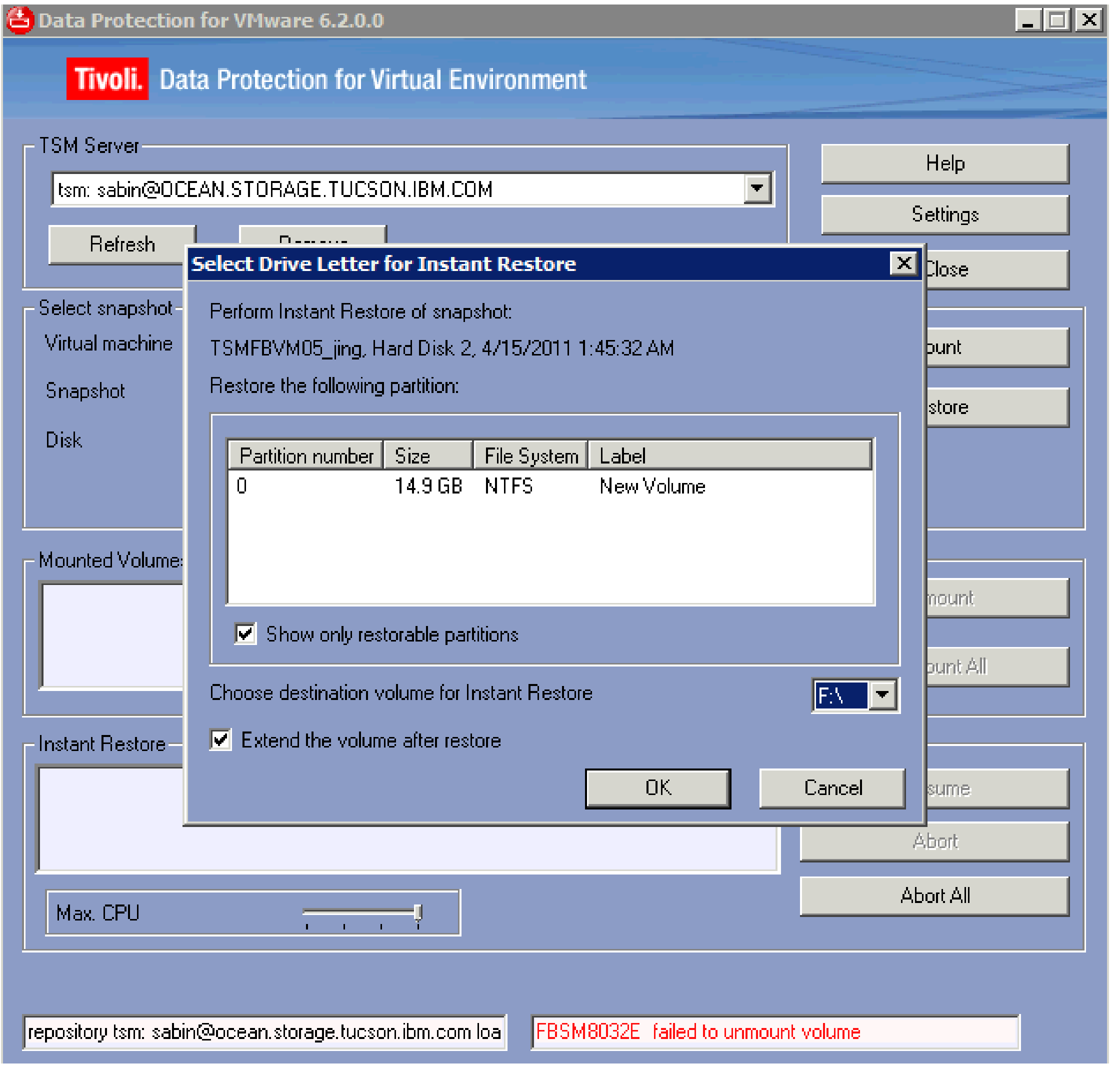
4.2.1 Windows 平台

要使用 Instant Retore 功能，不许在该机器上安装 TSM for VE.

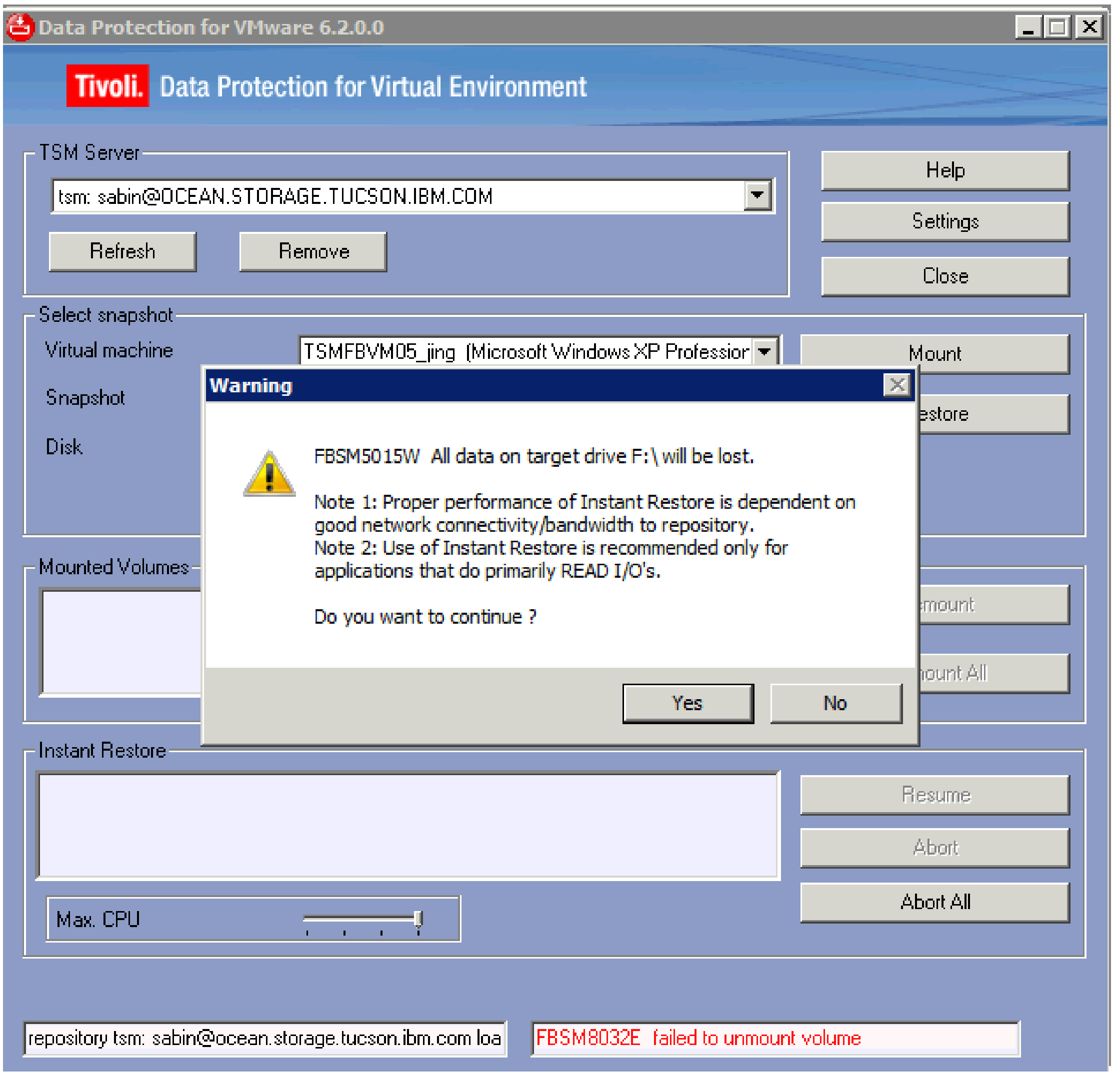
选择之前的某个备份，选择 restore:

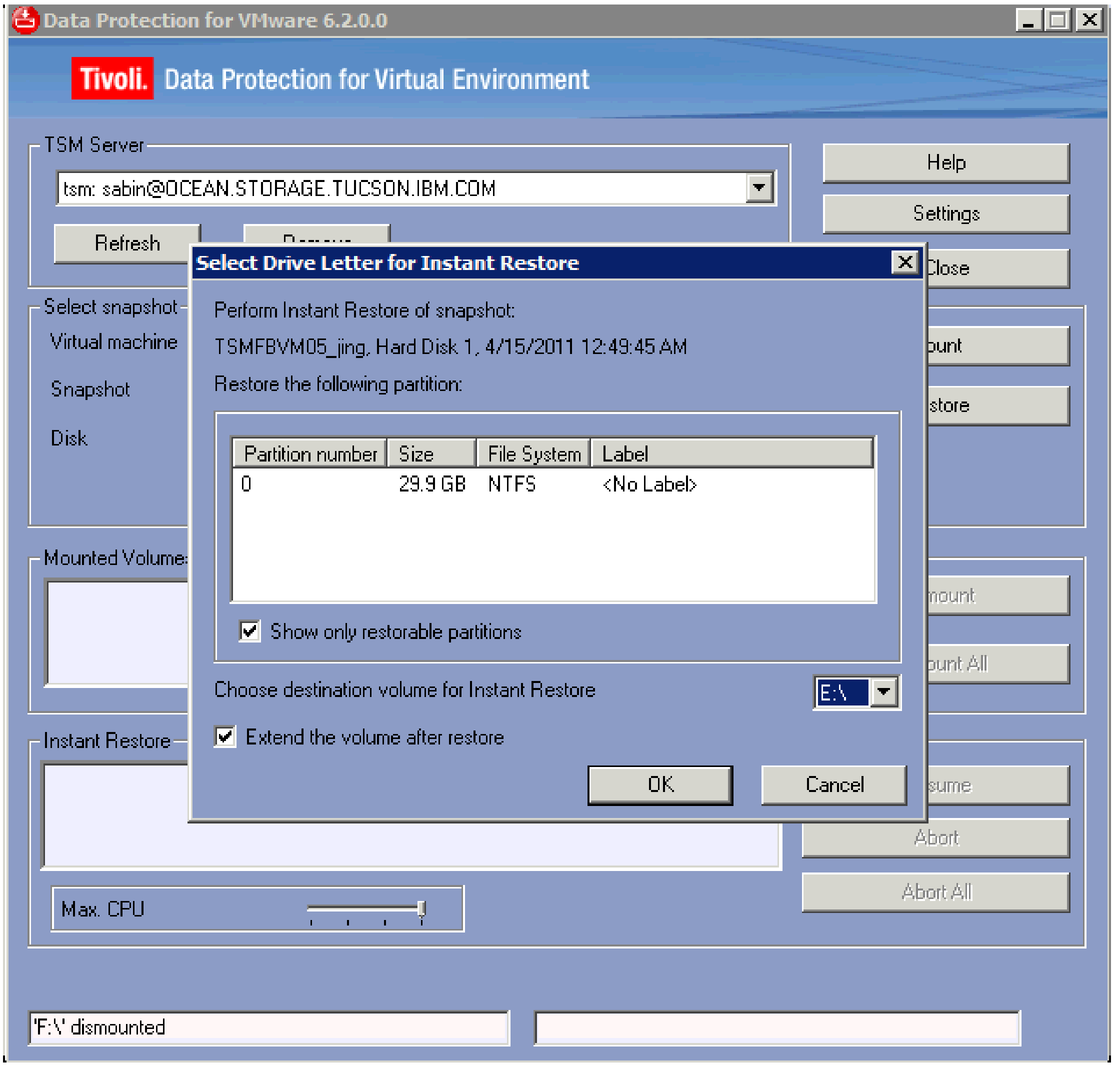


本例中，我们新建了硬盘 F:\，并将之前的备份数据恢复回来。

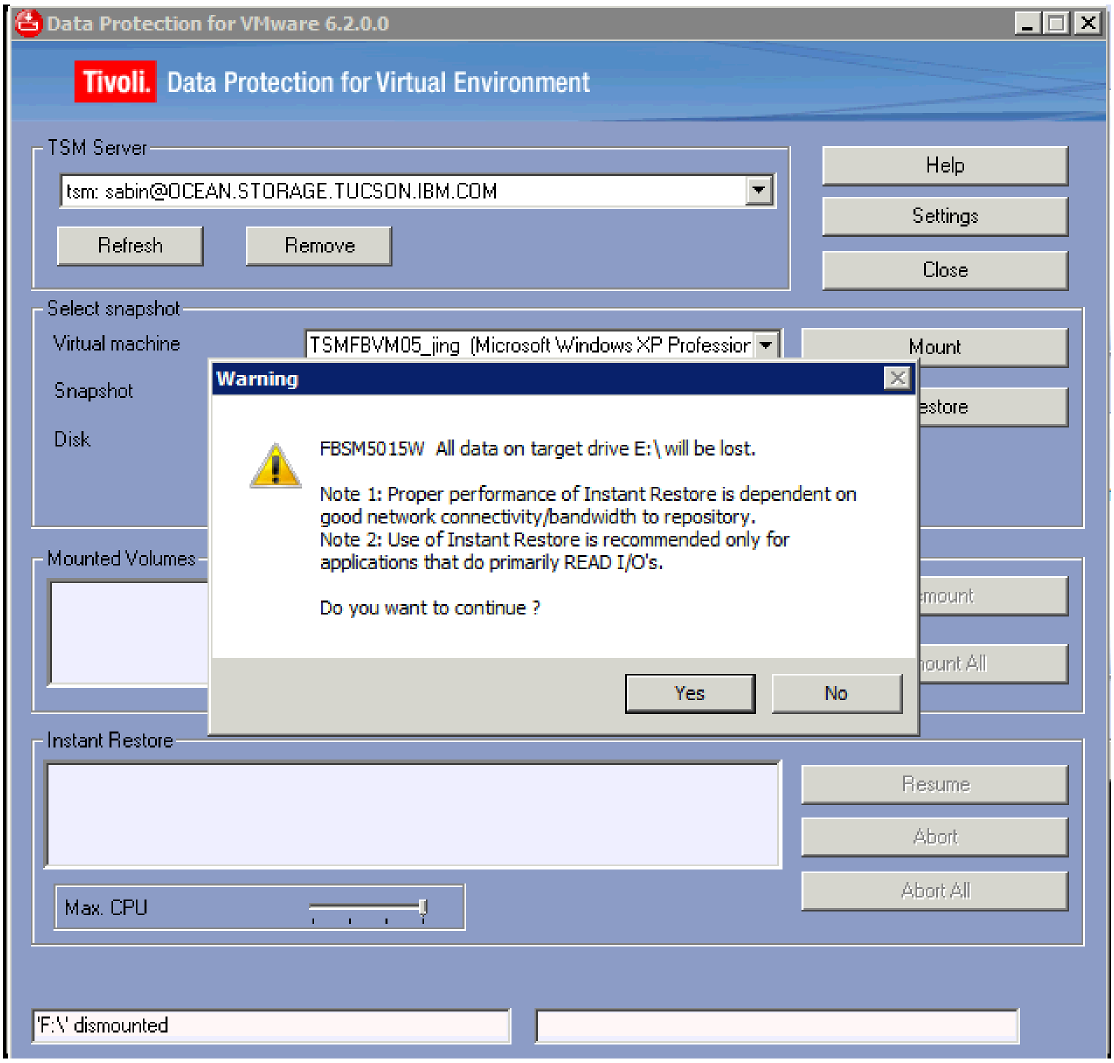

Data Protection for VMware 6.2.0.0
Tivoli. Data Protection for Virtual Environment
TSM Server
tsm: sabin@OCEAN.STORAGE.TUCSON.IBM.COM
Refresh
Help
Settings
Close
Select snapshot
Virtual machine
Snapshot
Disk
Mounted Volumes
Instant Restore
Max. CPU
Abort
Abort All
Select Drive Letter for Instant Restore
Perform Instant Restore of snapshot:
TSMFBVM05_jing, Hard Disk 2, 4/15/2011 1:45:32 AM
Restore the following partition:
Partition number
Size
File System
Label
0
14.9 GB
NTFS
New Volume
Show only restorable partitions
Choose destination volume for Instant Restore
F:\
Extend the volume after restore
OK
Cancel
repository tsm: sabin@ocean.storage.tucson.ibm.com loa
FBSM8032E failed to unmount volume

覆盖 f:\数据警告：

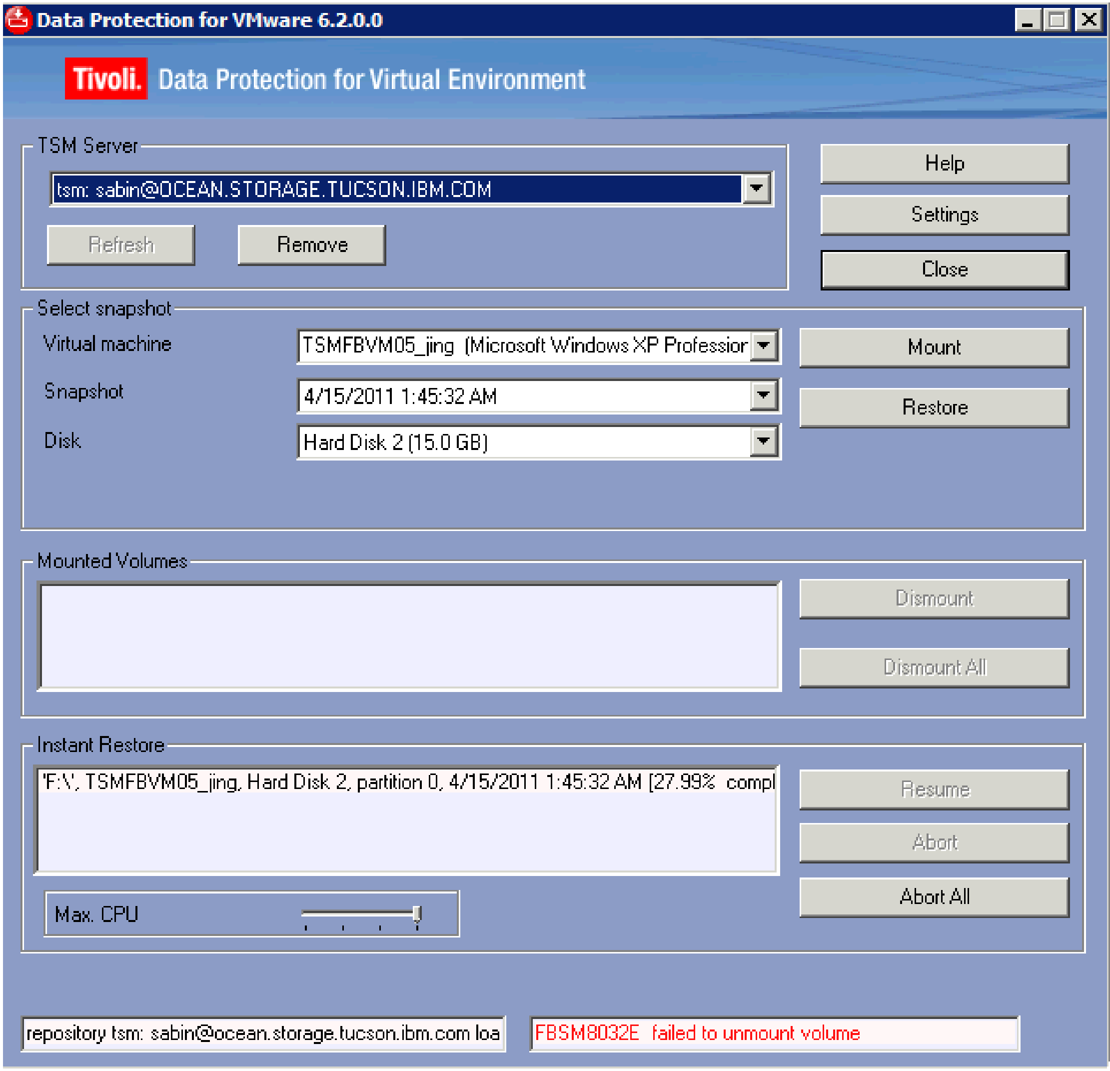

Data Protection for VMware 6.2.0.0
Tivoli. Data Protection for Virtual Environment
TSM Server
tsm: sabin@OCEAN.STORAGE.TUCSON.IBM.COM
Refresh
Remove
Help
Settings
Close
Select snapshot
Virtual machine
TSMFBVM05_jing (Microsoft Windows XP Professior
Mount
Snapshot
Disk
Warning
FBSM5015W All data on target drive F:\ will be lost.
Note 1: Proper performance of Instant Restore is dependent on good network connectivity/bandwidth to repository.
Note 2: Use of Instant Restore is recommended only for applications that do primarily READ I/O's.
Do you want to continue ?
Yes
No
Mounted Volumes
Instant Restore
Resume
Abort
Abort All
Max. CPU
repository tsm: sabin@ocean.storage.tucson.ibm.com loa
FBSM8032E failed to unmount volume


Data Protection for VMware 6.2.0.0
Tivoli. Data Protection for Virtual Environment
TSM Server
tsm: sabin@OCEAN.STORAGE.TUCSON.IBM.COM
Refresh
Help
Settings
Select Drive Letter for Instant Restore
Perform Instant Restore of snapshot:
TSMFBVM05_jing, Hard Disk 1, 4/15/2011 12:49:45 AM
Restore the following partition:
Partition number
Size
File System
Label
0
29.9 GB
NTFS
<No Label>
Show only restorable partitions
Choose destination volume for Instant Restore
E:\
Extend the volume after restore
OK
Cancel
Select snapshot
Virtual machine
Snapshot
Disk
Instant Restore
Abort
Abort All
Max. CPU
'F:\' dismounted

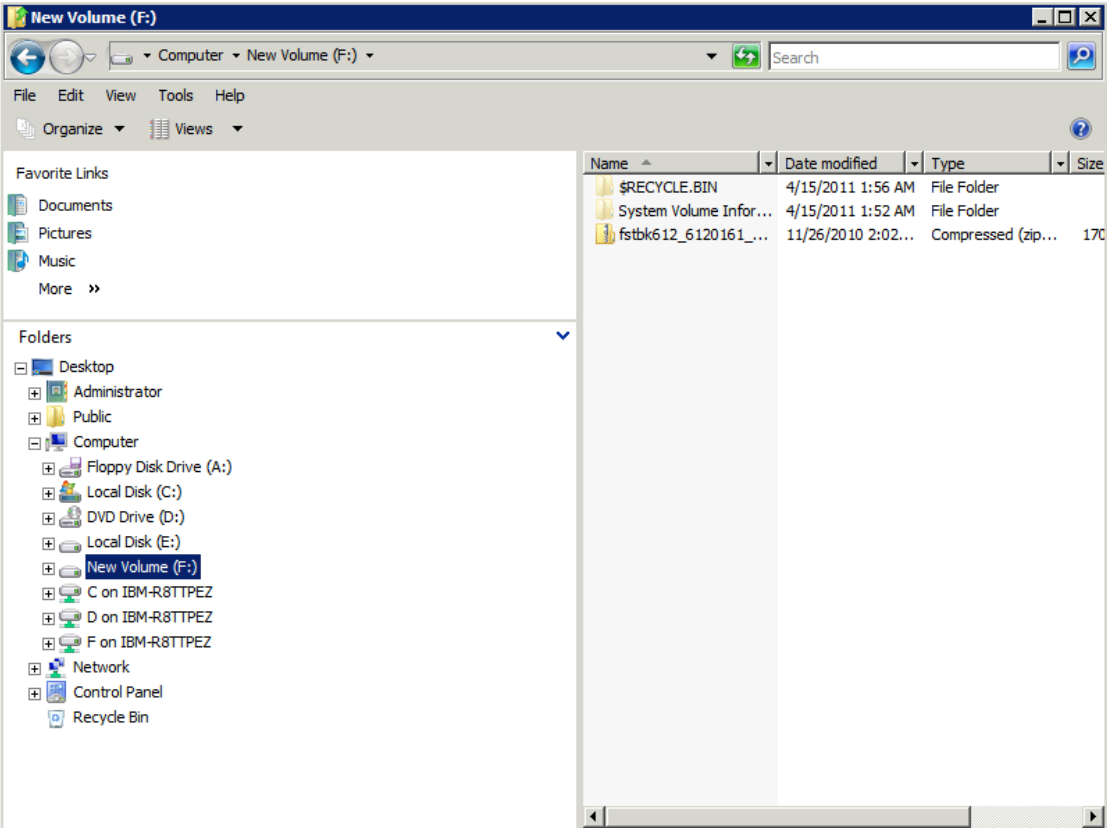
覆盖掉原有数据：



在数据恢复过程中，如图示,恢复到 29%时，已经可以访问数据。

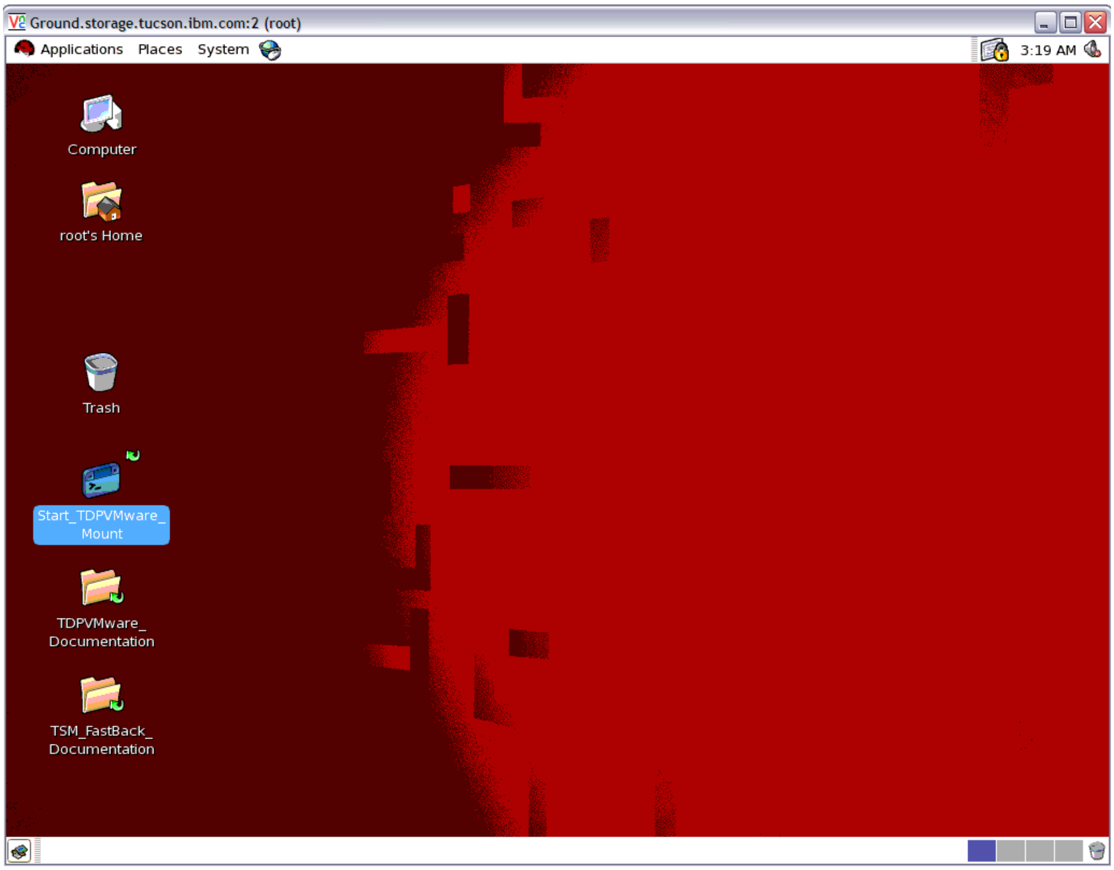

Data Protection for VMware 6.2.0.0
Tivoli. Data Protection for Virtual Environment
TSM Server
tsm: sabin@OCEAN.STORAGE.TUCSON.IBM.COM
Refresh
Remove
Help
Settings
Close
Select snapshot
Virtual machine
TSMFBVM05_jing (Microsoft Windows XP Professior
Snapshot
4/15/2011 1:45:32 AM
Disk
Hard Disk 2 (15.0 GB)
Mount
Restore
Mounted Volumes
Dismount
Dismount All
Instant Restore
'F:\', TSMFBVM05_jing, Hard Disk 2, partition 0, 4/15/2011 1:45:32 AM [27.99% compl
Resume
Abort
Abort All
Max. CPU
repository tsm: sabin@ocean.storage.tucson.ibm.com loa
FBSM8032E failed to unmount volume

恢复完成：

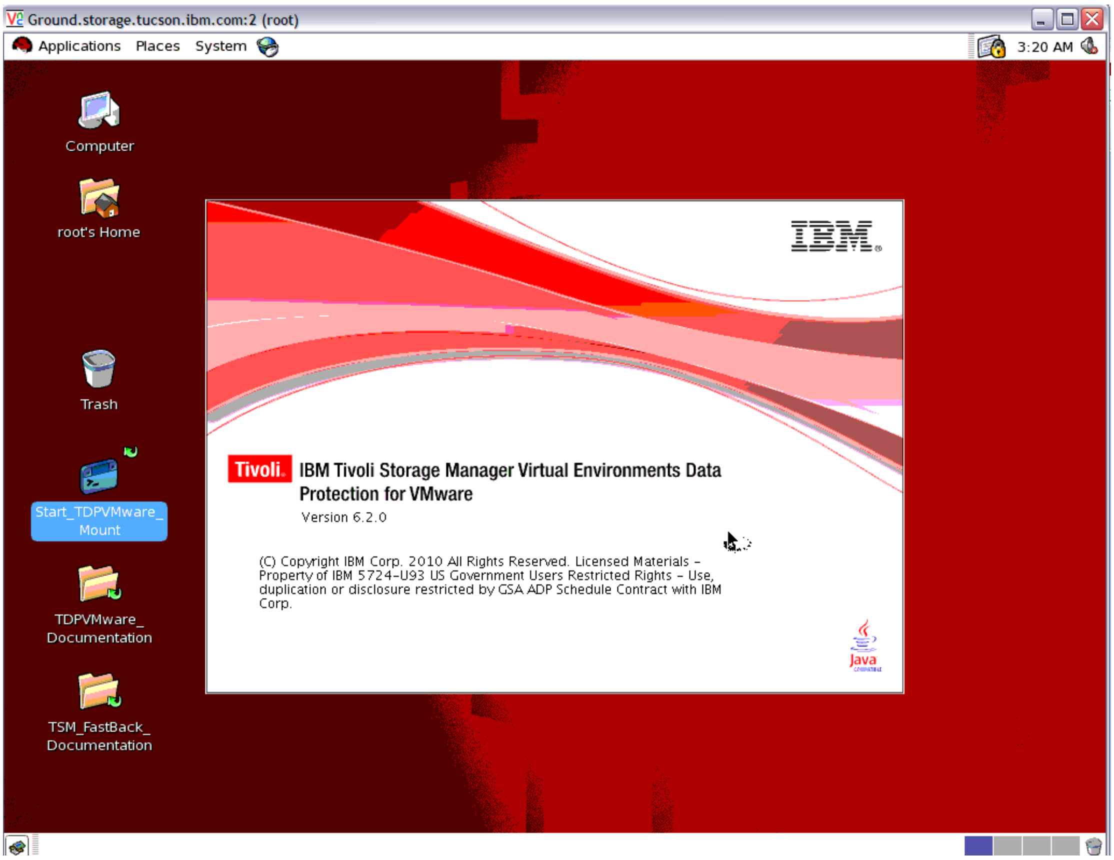


4.2.2 Linux 平台

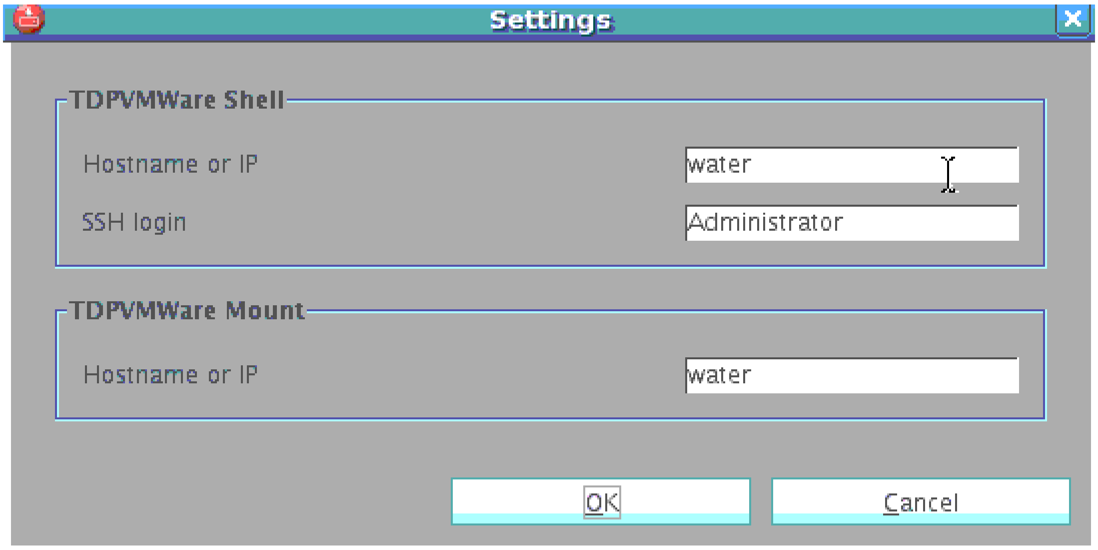
通过 VNC 连接需要做恢复的机器：



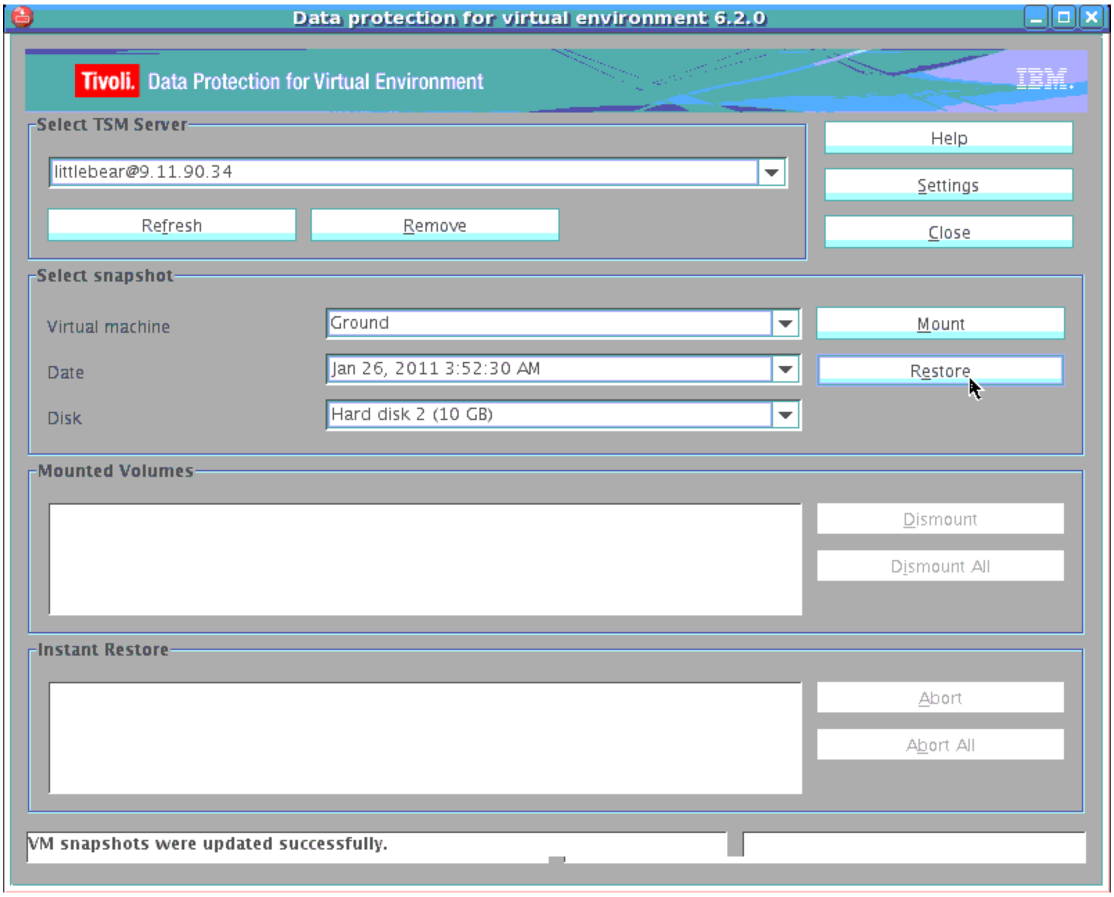
运行 TSM for VE

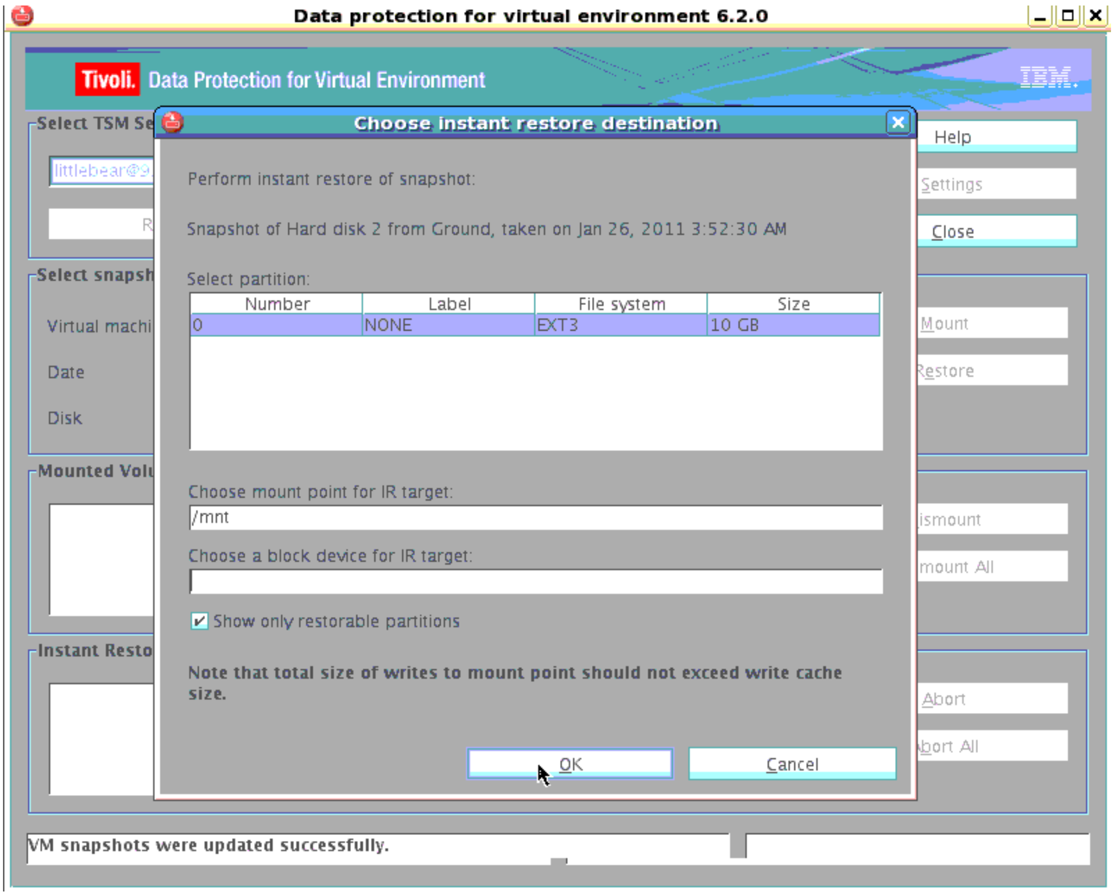


选择 proxy server，也就是之前配置的 cgywin 的 windows 机器：



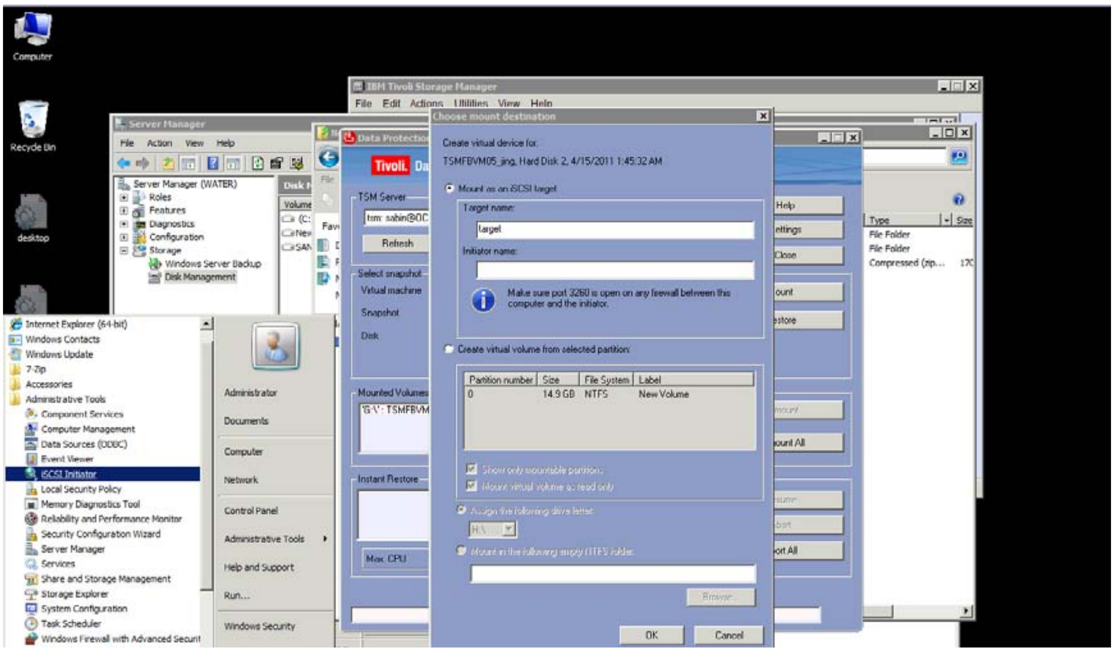
选择一个 mount


Data protection for virtual environment 6.2.0
Tivoli. Data Protection for Virtual Environment
IBM.
Select TSM Server
littlebear@9.11.90.34
Refresh
Remove
Help
Settings
Close
Select snapshot
Virtual machine
Ground
Date
Jan 26, 2011 3:52:30 AM
Disk
Hard disk 2 (10 GB)
Mount
Restore
Mounted Volumes
Dismount
Dismount All
Instant Restore
Abort
Abort All
VM snapshots were updated successfully.

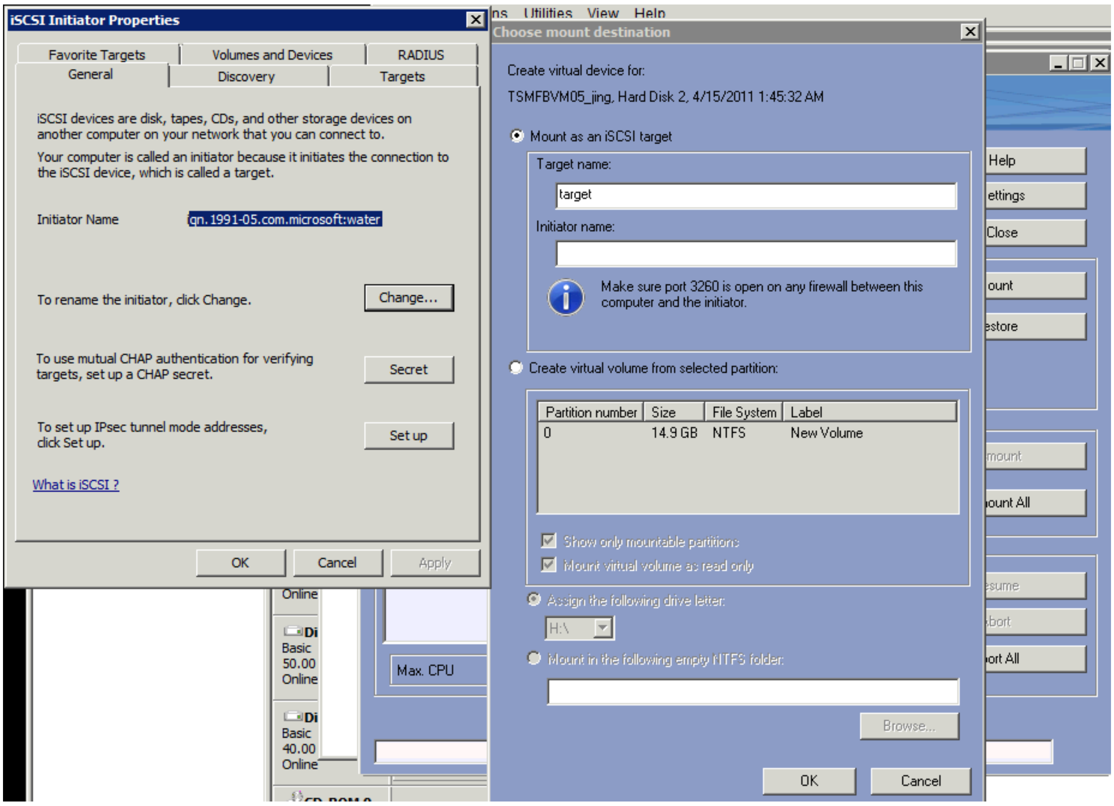

Data protection for virtual environment 6.2.0
Tivoli. Data Protection for Virtual Environment
IBM.
Choose instant restore destination
Perform instant restore of snapshot:
Snapshot of Hard disk 2 from Ground, taken on Jan 26, 2011 3:52:30 AM
Select partition:
Number
Label
File system
Size
0
NONE
EXT3
10 GB
Choose mount point for IR target:
/mnt
Choose a block device for IR target:
Show only restorable partitions
Note that total size of writes to mount point should not exceed write cache size.
OK
Cancel
Help
Settings
Close
VM snapshots were updated successfully.

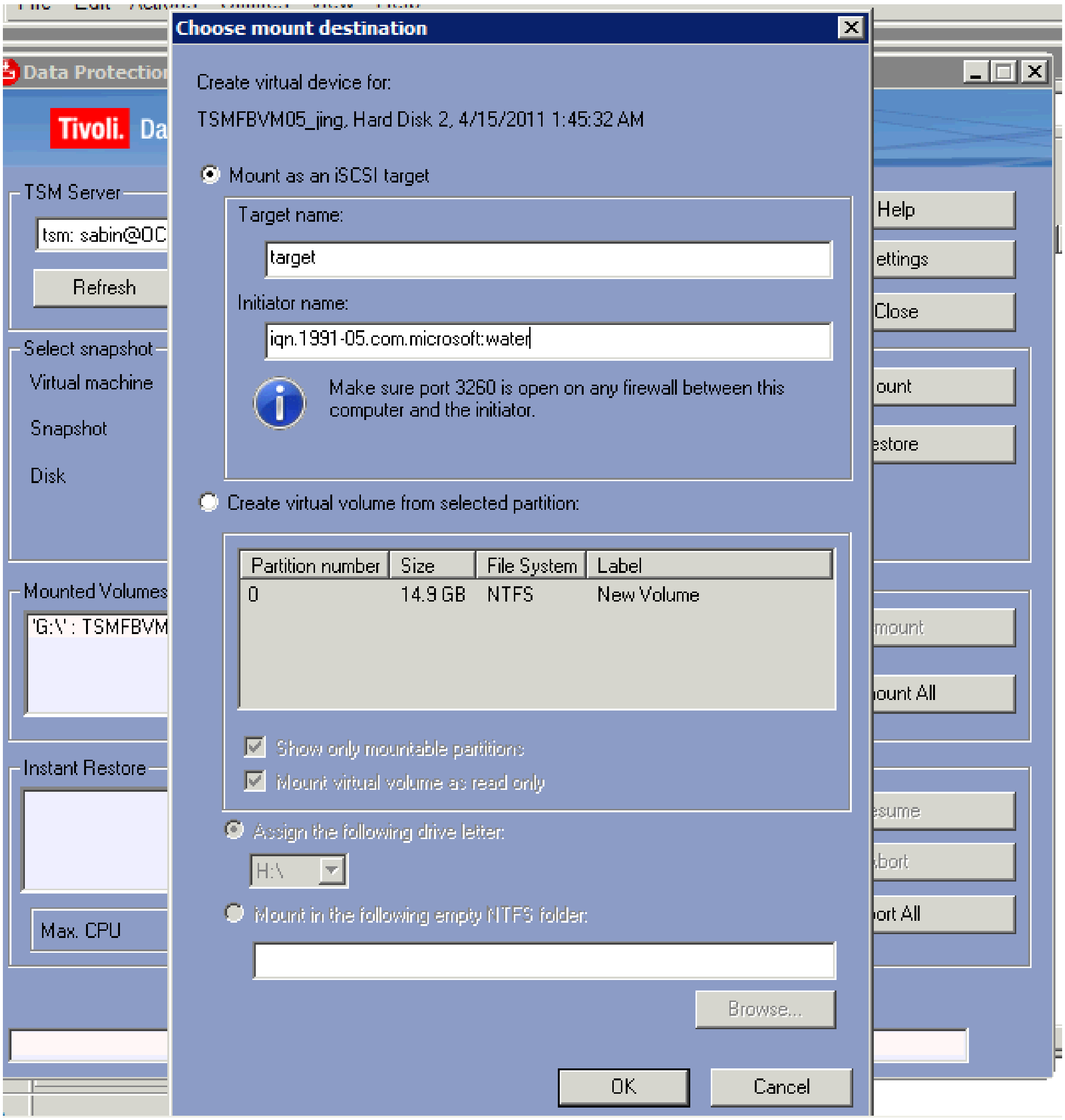
4.3 使用 Iscsi mount

开始菜单-> scsi initiator:



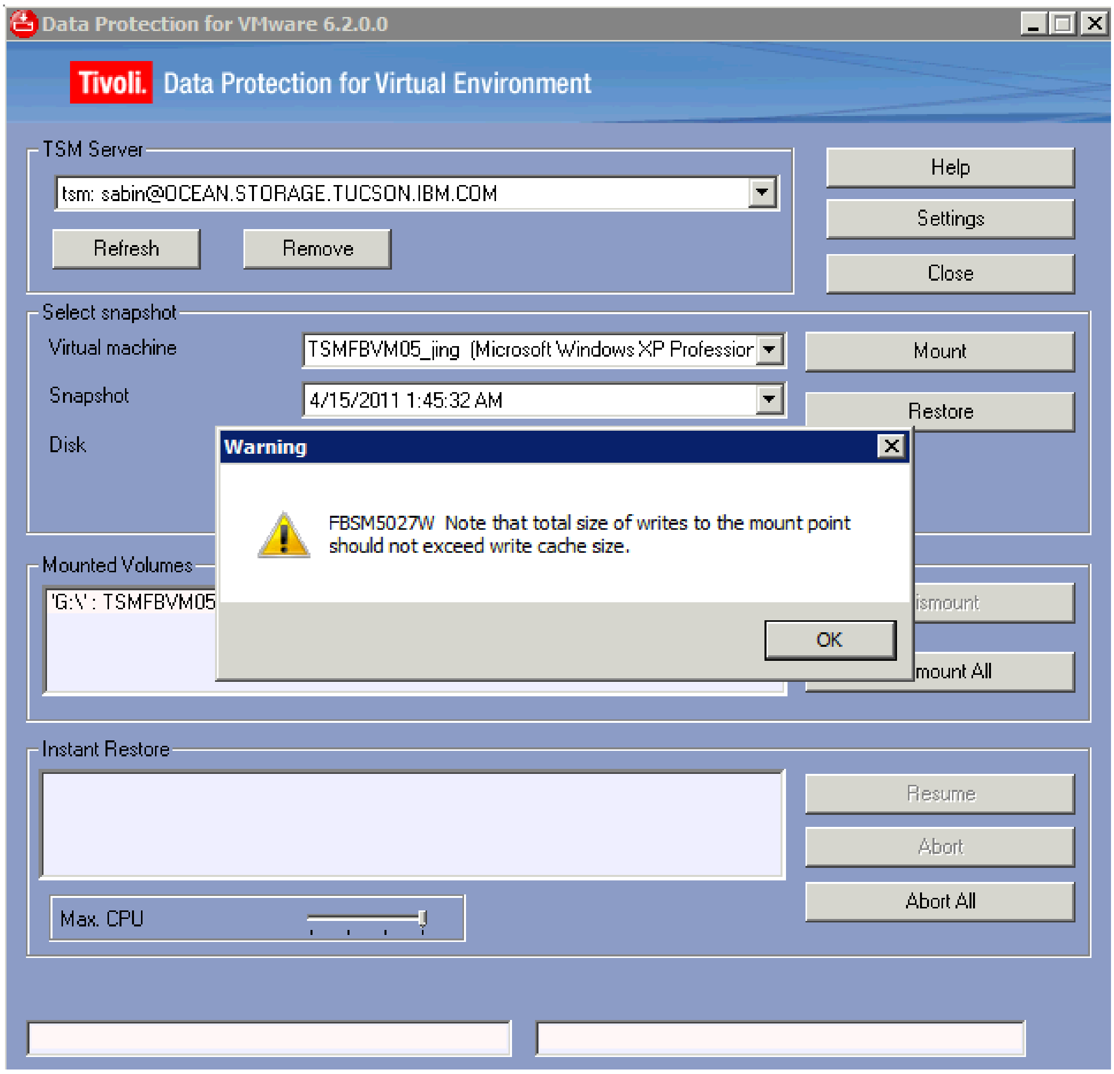
将 initiator name 输入到 iscsi mount 的 initiator name 栏中：



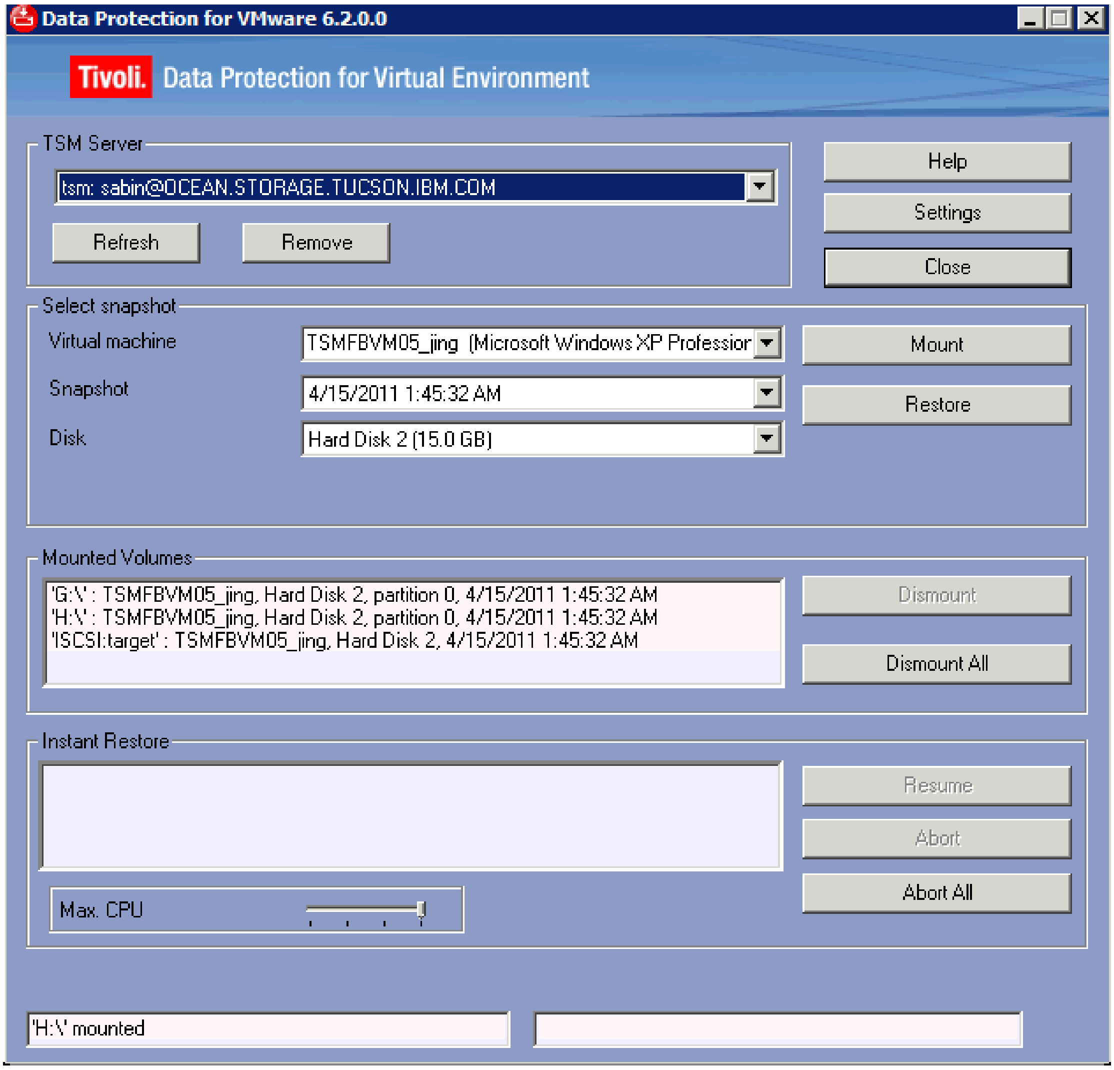


Choose mount destination
Data Protection
Tivoli.
TSM Server
tsm: sabin@OC
Refresh
Select snapshot
Virtual machine
Snapshot
Disk
Mounted Volumes
'G:\' : TSMFBVM
Instant Restore
Max. CPU
Create virtual device for:
TSMFBVM05_jing, Hard Disk 2, 4/15/2011 1:45:32 AM
Mount as an iSCSI target
Target name:
target
Initiator name:
iqn.1991-05.com.microsoft:water
Make sure port 3260 is open on any firewall between this computer and the initiator.
Create virtual volume from selected partition:
Partition number
Size
File System
Label
0
14.9 GB
NTFS
New Volume
Show only mountable partitions
Mount virtual volume as read only
Assign the following drive letter:
H:\
Mount in the following empty NTFS folder:
Browse...
OK
Cancel
Help
ettings
Close
ount
estore
mount
ount All
esume
bort
ort All

忽略告警：


Data Protection for VMware 6.2.0.0
Tivoli. Data Protection for Virtual Environment
TSM Server
tsm: sabin@OCEAN.STORAGE.TUCSON.IBM.COM
Refresh
Remove
Help
Settings
Close
Select snapshot
Virtual machine
TSMFBVM05_jing (Microsoft Windows XP Professior
Snapshot
4/15/2011 1:45:32 AM
Disk
Mount
Restore
Warning
FBSM5027W Note that total size of writes to the mount point should not exceed write cache size.
OK
Mounted Volumes
'G:\' : TSMFBVM05
ismount
mount All
Instant Restore
Resume
Abort
Abort All
Max. CPU

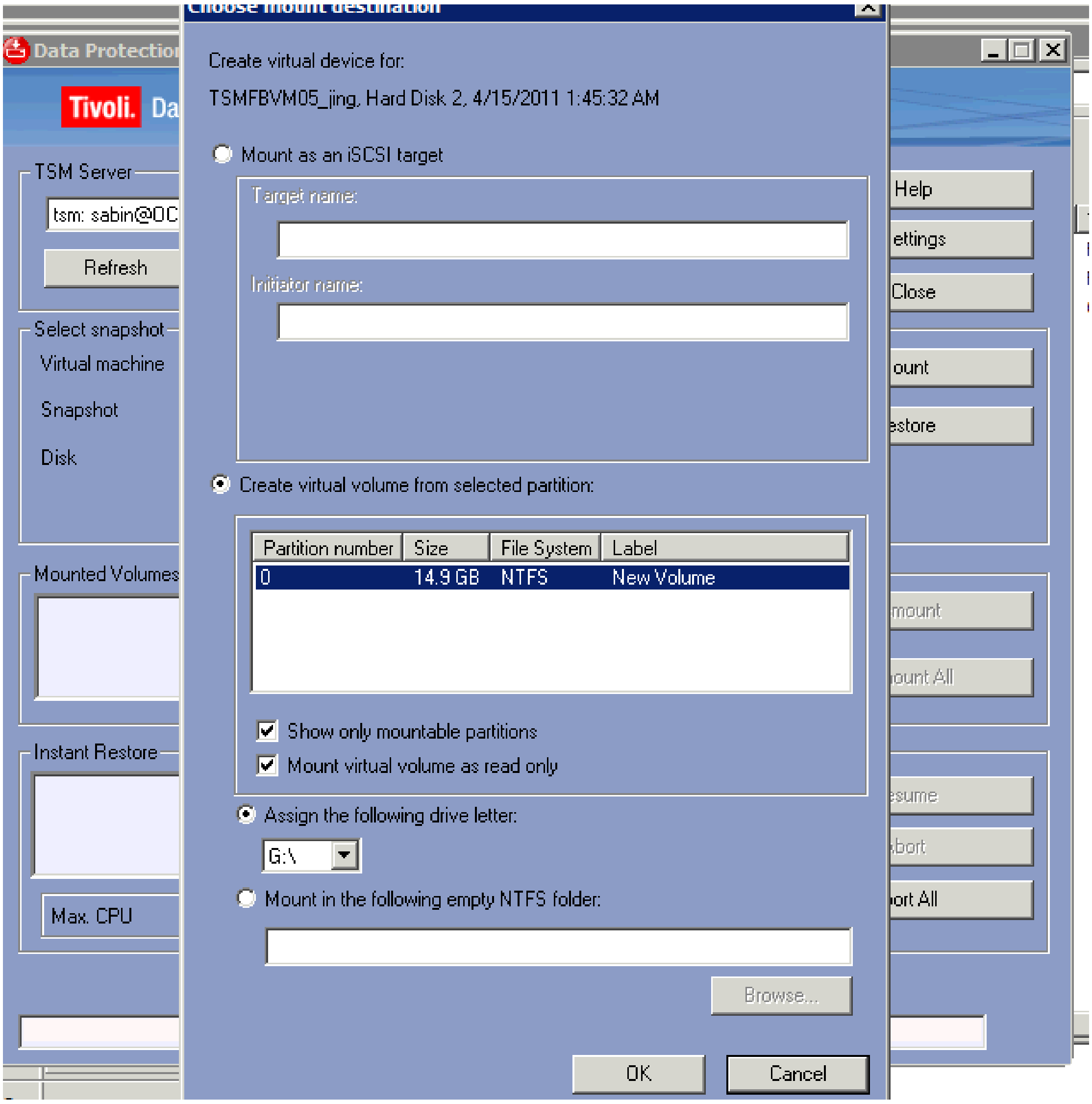
Mount 成功：



4.4 使用 virtual volume mount:

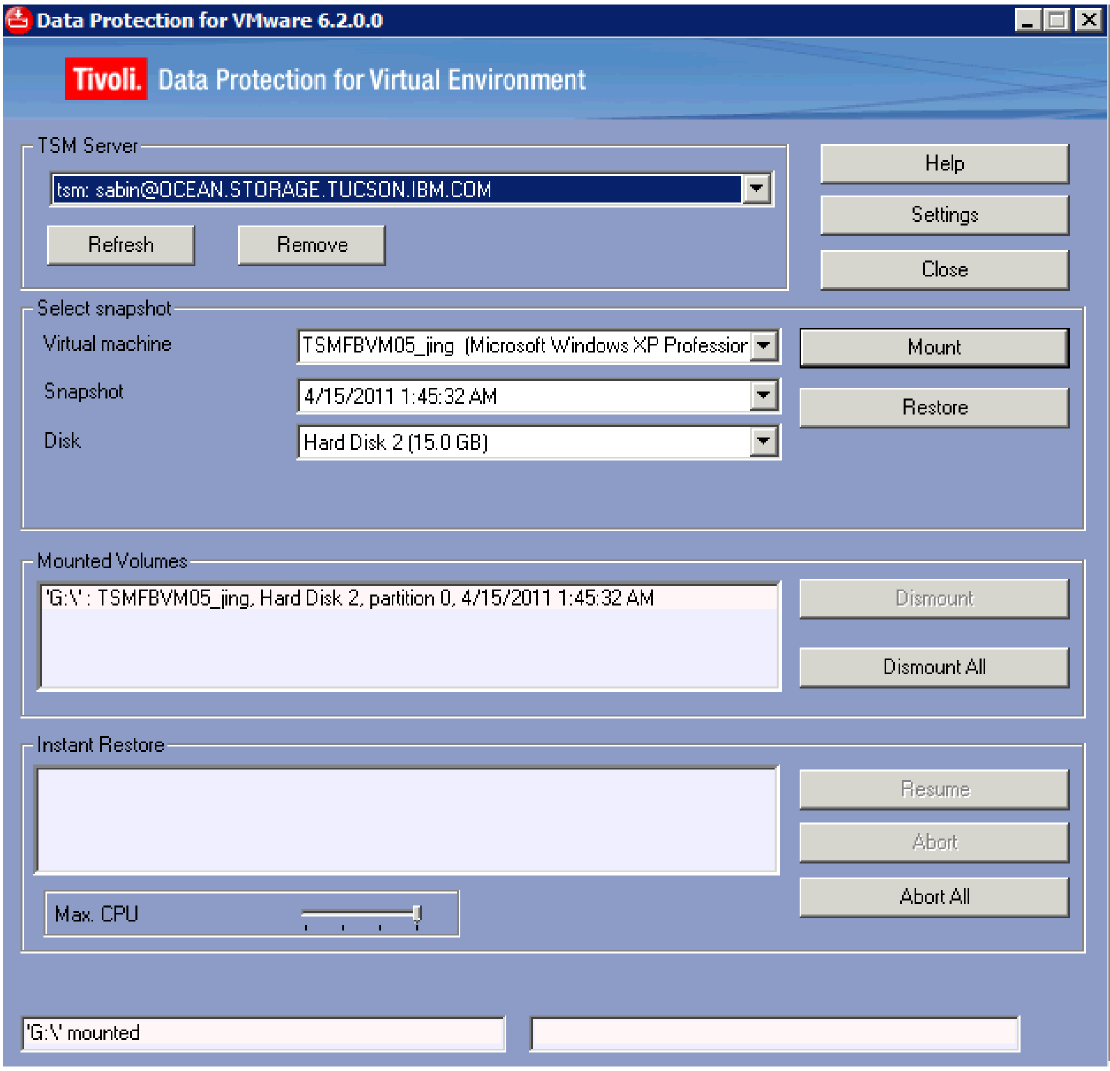
4.4.1 Windows 平台

选择某个之前时间点的备份，选择 mount,选择 create virtual volume from selected partition，并制定一个新的盘符：



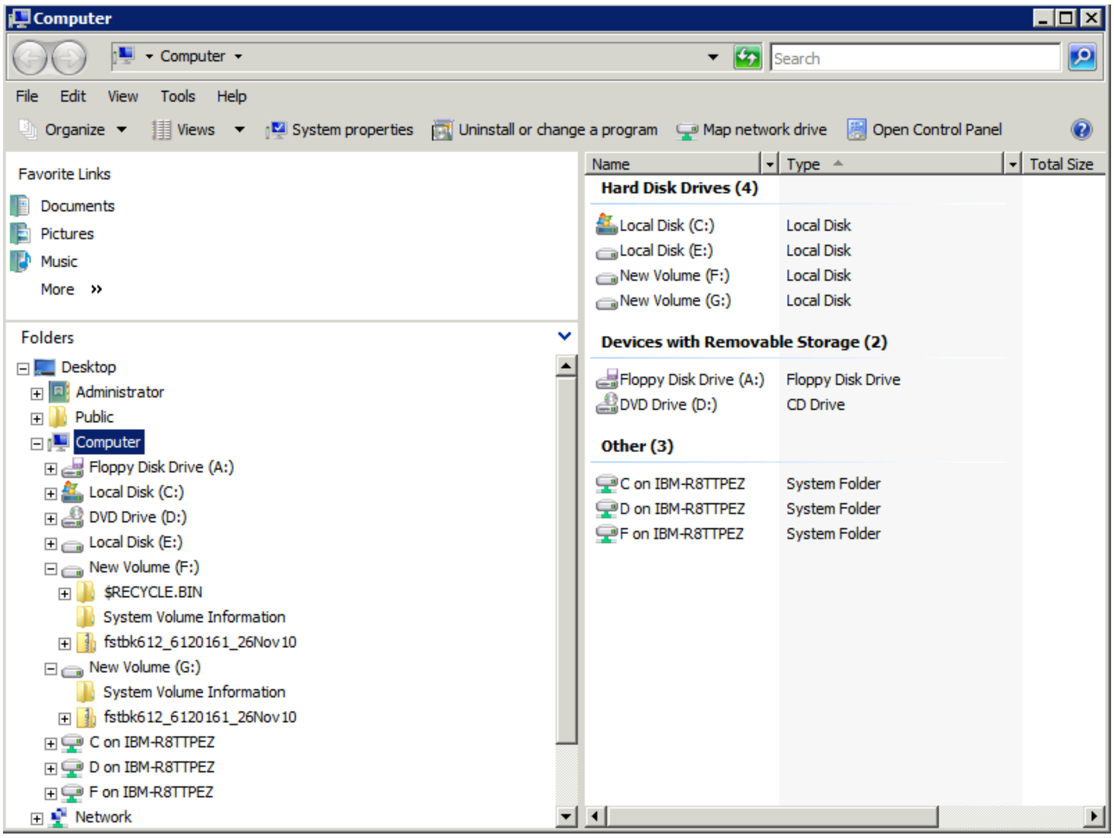
Choose mount destination
Data Protection
Tivoli. Da
TSM Server
tsm: sabin@OC
Refresh
Select snapshot
Virtual machine
Snapshot
Disk
Mounted Volumes
Instant Restore
Max. CPU
Create virtual device for:
TSMFBVM05_jing, Hard Disk 2, 4/15/2011 1:45:32 AM
Mount as an iSCSI target
Target name:
Initiator name:
Create virtual volume from selected partition:
Partition number
Size
File System
Label
0
14.9 GB
NTFS
New Volume
Show only mountable partitions
Mount virtual volume as read only
Assign the following drive letter:
G:\
Mount in the following empty NTFS folder:
Browse...
OK
Cancel
Help
ettings
Close
ount
estore
mount
ount All
esume
bort
ort All

显示 mount 成功：

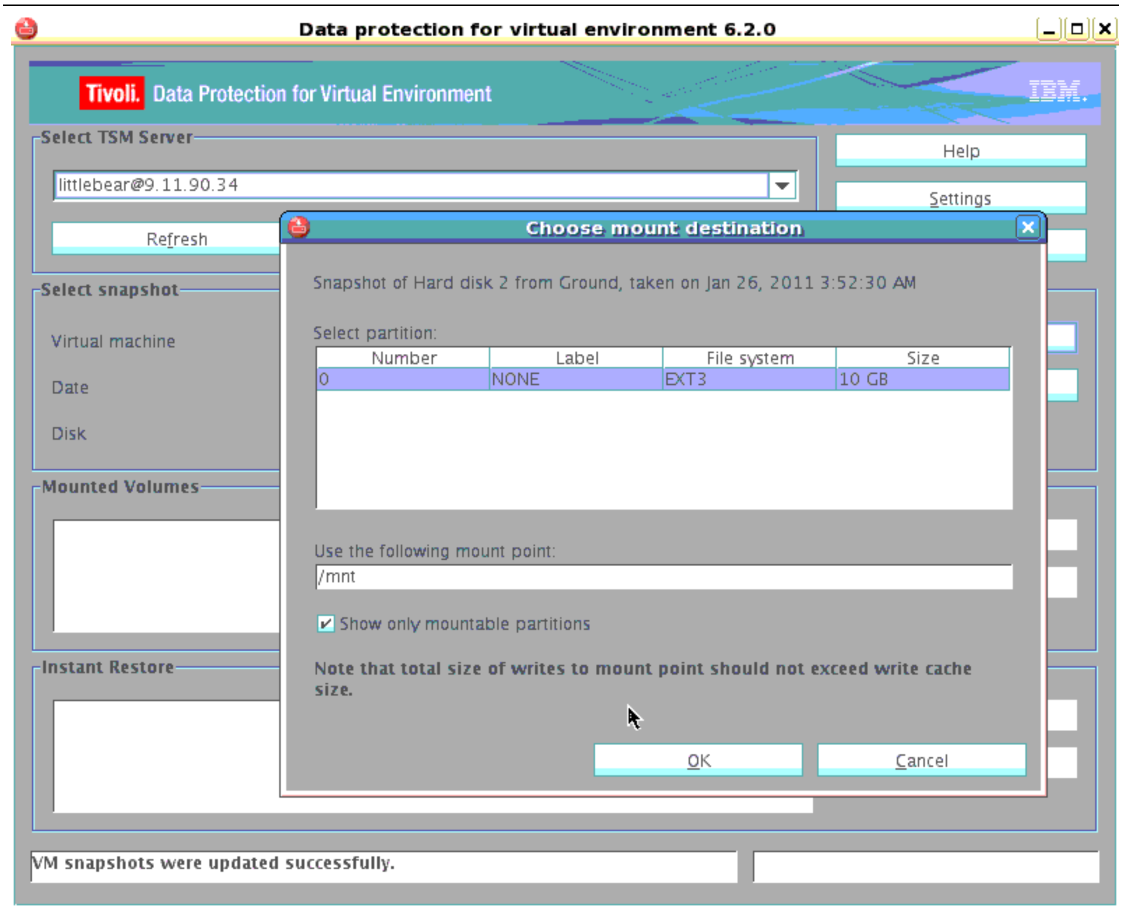


之前备份的数据盘被 mount 成 G:\

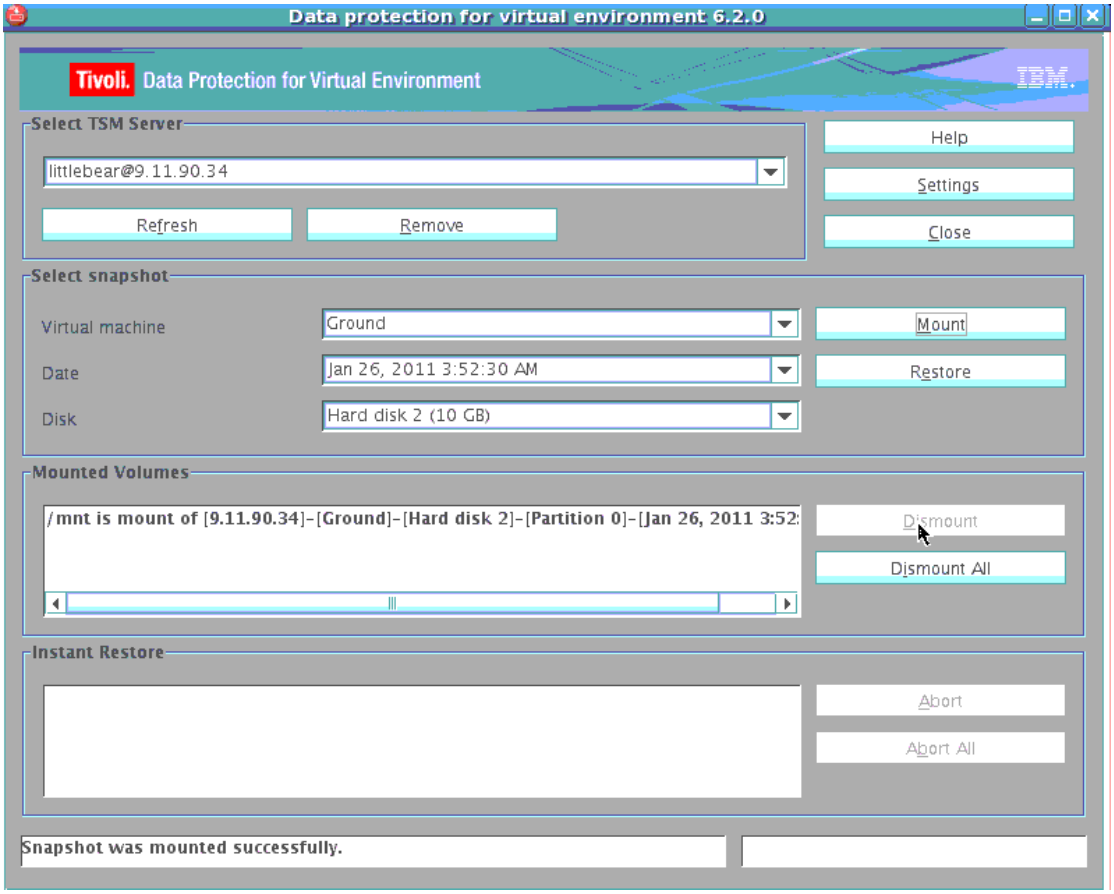
G:\的数据与我们之前恢复的 F:\的数据完全一致：


Computer
Computer
Search
File
Edit
View
Tools
Help
Organize
Views
System properties
Uninstall or change a program
Map network drive
Open Control Panel
Favorite Links
Documents
Pictures
Music
More »
Folders
Desktop
Administrator
Public
Computer
Floppy Disk Drive (A:)
Local Disk (C:)
DVD Drive (D:)
Local Disk (E:)
New Volume (F:)
$RECYCLE.BIN
System Volume Information
fstbk612_6120161_26Nov10
New Volume (G:)
System Volume Information
fstbk612_6120161_26Nov10
C on IBM-R8TTPEZ
D on IBM-R8TTPEZ
F on IBM-R8TTPEZ
Network
Name
Type
Total Size
Hard Disk Drives (4)
Local Disk (C:)
Local Disk
Local Disk (E:)
Local Disk
New Volume (F:)
Local Disk
New Volume (G:)
Local Disk
Devices with Removable Storage (2)
Floppy Disk Drive (A:)
Floppy Disk Drive
DVD Drive (D:)
CD Drive
Other (3)
C on IBM-R8TTPEZ
System Folder
D on IBM-R8TTPEZ
System Folder
F on IBM-R8TTPEZ
System Folder

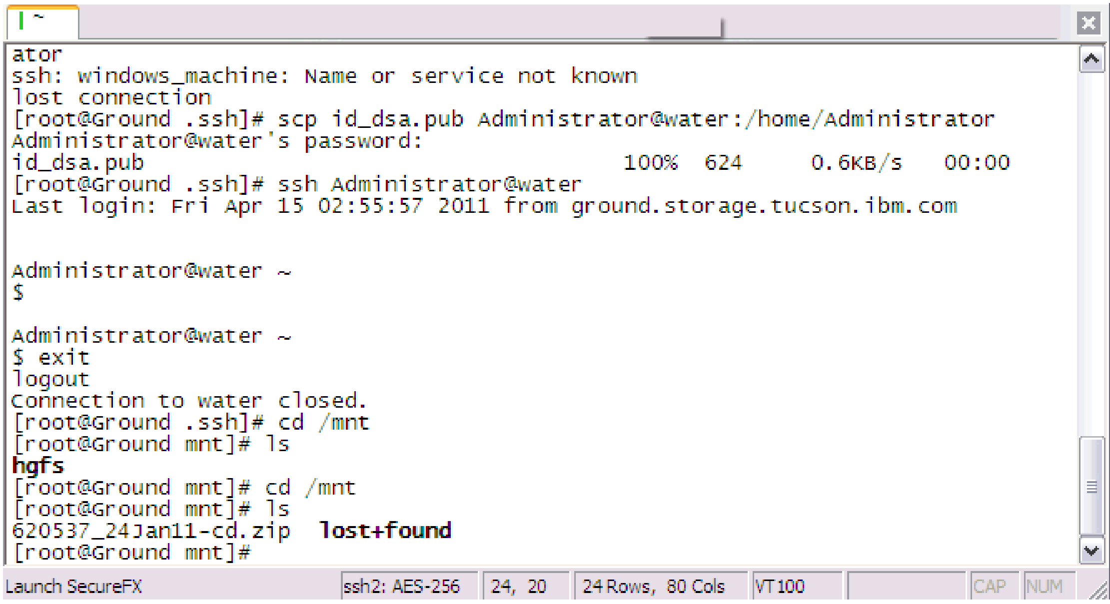
4.4.2 Linux 平台


Data protection for virtual environment 6.2.0
Tivoli. Data Protection for Virtual Environment
IBM.
Select TSM Server
littlebear@9.11.90.34
Help
Settings
Refresh
Select snapshot
Virtual machine
Date
Disk
Mounted Volumes
Instant Restore
Choose mount destination
Snapshot of Hard disk 2 from Ground, taken on Jan 26, 2011 3:52:30 AM
Select partition:
Number
Label
File system
Size
0
NONE
EXT3
10 GB
Use the following mount point:
/mnt
Show only mountable partitions
Note that total size of writes to mount point should not exceed write cache size.
OK
Cancel
VM snapshots were updated successfully.

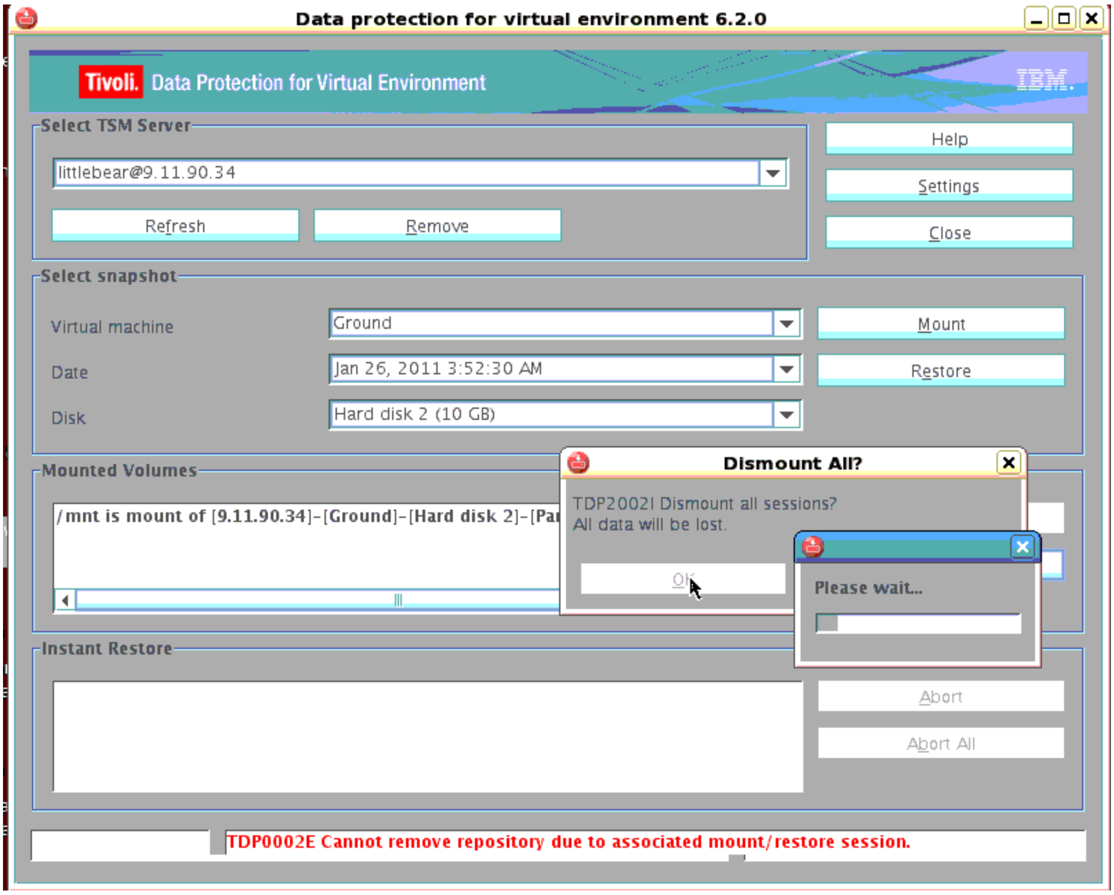
Mount 成功



数据 mount 后可用：



Dismount:



Data protection for virtual environment 6.2.0
Tivoli. Data Protection for Virtual Environment
IBM.
Select TSM Server
littlebear@9.11.90.34
Refresh
Remove
Help
Settings
Close
Select snapshot
Virtual machine
Ground
Date
Jan 26, 2011 3:52:30 AM
Disk
Hard disk 2 (10 GB)
Mount
Restore
Mounted Volumes
/mnt is mount of [9.11.90.34]-[Ground]-[Hard disk 2]-[Pa
Dismount All?
TDP2002I Dismount all sessions?
All data will be lost.
OK
Please wait...
Instant Restore
Abort
Abort All
TDP0002E Cannot remove repository due to associated mount/restore session.